SECOND SERIES VOL. IV, No. 5

BULLETIN

OF

THE NEW YORK ACADEMY OF MEDICINE

MAY, 1928

INSTITUTED 1847

PUBLISHED MONTHLY BY
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EDITORIAL

AVAILABLE SOURCES AND FUTURE PROSPECTS OF MEDICAL BIOGRAPHY[1]

The historical records of our profession are assembled first, from the secular histories of nations, from governmental and municipal records, from extant medical texts, from bibliographies of such texts, from tradition and hearsay, and finally from medical biography. To physicians, medical biography is one of the best modes of preserving historical data and the most simple and direct line of approach to medical history. Biographies of physicians have to be assembled from tradition, from family records, from government records, from inscriptions on tombstones or memorial tablets, from collateral references in secular literature, from the writings of physicians themselves, from bibliographies of the same and from the chronological data in books on secular and medical history. Hirsch points out that the historian must convey the essential spirit or *cachet* of a period, the ideas and social forces which activated it, while biography is individual, local and personal. Medical biography was personal up to the time of Haller, who, about 1774-5, introduced a new element, the bibliographical. Materials for constructing biographies of outstanding physicians have existed from the beginnings of recorded history but have seldom been intelligently employed, for the self-evident reason that only a limited number of people, even among professional men of letters, have any specific talent for biography, in the sense of a definite evocation of personality, character and

[1] Read at a meeting of the Book and Journal Club, Baltimore, on March 8, 1928.

achievement in relation to time and place. The general recipe for all such work is contained in the dictum of Verneuil: "While erudition creates nothing, it may lead to creation," which may be bent to our present purpose by saying that the object of erudition is to furnish building stones for construction. For biography is in danger when it attempts to invade the great field of creative and imaginative literature. If it is to be of any permanent value, it must avoid romancing, and deal, like history, with ascertained or ascertainable fact. Plutarch's Lives, Boswell's Johnson, Carlyle's Frederick are not in the same class with Hamlet, Don Quixote and Faust; nevertheless, Boswell does make us see and feel Johnson, Carlyle does make us understand Frederick, without drawing upon the imagination or telling any lies about them. Of the earliest known physician, Im-hotep in Egypt (2900 B. C.), two admirable biographies have appeared within the last quarter-century, those of Kurt Sethe in Germany (1912) and of J. B. Hurry in England (1925). Constructed, as they have been, from shreds and patches, they cannot, in the nature of things, convey the impression of a vitalized, understandable personality, but they do convey all the information at present available. Georg Ebers, in *Uarda,* did better, but that is fiction, like Landor's *Pericles and Aspasia.* Some evocation of this kind has been attempted in Johannes Ilberg's cultural picture *Aus Galen's Praxis* (1905) and in Meyer-Steineg's *A Day in the Life of Galen* (1913). Pieced together from hundreds of sources, these mosaic pictures may be viewed in the light of Carlyle's criticism of Zimmermann's *Day with Frederick the Great*: "Very flat, but I daresay very *true*:—a Daguerrotype of One of his Days."

Lists of ancient physicians may be constructed from the *Proaemium* of Celsus, from Oribasius, from the *chapitre singulier* of Guy's *Chirurgia magna* (1363), which was separately printed by Etienne Dolet (1542), from Symphorien Champier's history of medicine (*De claris medicinae scriptoribus,* Lyons, 1506), which is really biographical, from Brunfels' *Catalogus illustrium medicorum*

(Strassburg, 1530), and from the biographical collections of Pierre du Chastel (Antwerp, 1618), Linden (1637) and *Linden renovatus* (1686). Apart from Menon's *Iatrika*, the earliest known collection of biographies of physicians is that of Useibia of Damascus (1203-69), the Latin (MS.) translation of which (by Reiske of Copenhagen) has been lost, but which was partly translated into French by J. B. Sanguinetti in the *Journal asiatique* (1854-6). Of sources of this kind, Hirsch, in 1884, listed no less than 440, which he has further classified by countries, by historic periods and by specialties. To-day, we could probably double the number of titles in Hirsch's list, but, for ready reference in medical libraries, we still rely mainly upon a few available war-horses, notably:

N.-F.-J. Eloy: Dictionnaire historique de la médicine. 2 v. Liège, 1755. 2. ed. 4 v. Mons, 1778.

Bayle & Thillaye: Biographie médicale, 2. v. Paris, 1855.

Callisen (A. C. P.): Medicinisches Schriftsteller-Lexikon der jetzt lebenden Aerzte, 30 v. Copenhagen, 1830-45.

Jourdain (A.-J.-L.): Biographie médicale, 7 v. Paris, 1820-25 (being the initial volumes (1-7) of his Dictionnaire des sciences médicales).

Dechambre (A.): Dictionnaire encyclopédique des sciences médicales. 100 v. Paris, 1864-90, from which are derived many of the biographical sketches in

Hirsch (August): Biographisches Lexikon der hervorragenden Aerzte. 6 v. Wien & Leipzig, 1884-8. Later, supplemented by

Pagel (Julius): Biographisches Lexikon, Berlin & Wien, 1901.

For references, the bibliographies of Haller (1771-88) and the three series of the Index Catalogue of Surgeon General's Library, Washington, 1880-1928.

Of the above, Bayle and Thillaye (1855), although alphabetized only in the index, is the handiest of all, and was always on Osler's desk; Jourdain is unsurpassable for thoroughgoing and accurate bibliographies of the writings of physicians up to the 19th century, and was a constant *vade mecum* with Billings in the matter of filling up lacunae in the author bibliographies of the Index Catalogue; Callisen is indispensable for the period following the French Revolution; Dechambre and Hirsch cover the later period very adequately, and Pagel the physicians who were alive and prominent at the beginning of the 20th century. Of the legions of physicians in all countries who have par-

ticipated in the concerted advancement of medicine in the first quarter of the 20th century, there is no biographical index whatever. Supplementing Hirsch's list by some more recent references,[1] the collateral sources may be arranged as follows:

Ancient (Greek and Roman) Physicians

Allbutt (Sir T. C.): Greek Medicine in Rome. London, 1921.
Briau (Réné): L'archiatrie romaine. Paris, 1877.
Corlieu (H.): Les médecins grecs depuis la mort de Galien. Paris, 1885.
Goldhorn (C. J.): De archiatris romanis. Leipzig, diss., 1841.
Pétrequin (E. J.): Etudes médicales, Paris, 1858.
Ritter von Rittershain: Die Heilkünstler des alten Roms. Berlin, 1875.
Wohlfart (J. A.): Biographien griechischer Aerzte. Halle, 1770.

Arabian Physicians

Reiske (J. J.) & Fabri (J. E.): Opuscula medica, Halle, 1776.
Steinschneider (M.): Schriften der Araber in hebräischen Handschriften. Berlin, 1893.
Die arabischen Uebersetzungen aus dem Griechischen. Leipzig, 1889-96. (Medical part in: Virchow's *Arch.*, Berl., 1891, cxxiv, 115; 268; 4550.
Useibia. Aransl. by J. B. Sanguinetti. (Reprint from: *Journal asiatique*, Paris, 1854-6).
Wüstenfeld (F.): Geschichte der arabischen Aerzte und Naturforscher. Göttingen, 1840.

Chinese Physicians

Giles (H. A.): A Chinese Biographical Dictionary. Shanghai, 1898.
——— A History of Chinese Literature (1901). 2. ed. New York, 1923.
Hubötter (F.): A Guide through the Mazes of Chinese Medical Writings. Kumamoto, 1924.
——— Berühmte chinesische Aerzte. *Arch. f. Gesch. d. Med.*, Leipz., 1913-14, vii, 115-128.
Wylie (A.): Chinese Literature. London, 1876 (1902).

Jewish Physicians

Alphabetischer Liste aller gelehrten Juden [ed. P. Yung]. Leipzig, 1817.
Brueg (Isidor): De medicis illustris judaeorum qui inter Arabes vixerunt. Halle diss., 1843.
Calmet (Aug.): De medicis et re medica Hebraeorum. Paris, 1714.
Carmoly (E.): Histoire des médecins juifs anciens et modernes. Bruxelles, 1844.
——— The same. History of the Jewish Physicians. Transl. by John R. W. Dunbar, Baltimore. [s. d.]
Jewish (The) Encyclopaedia. 12 v. New York, 1901-6.
Landau (R.): Geschichte der jüdischen Aerzte. Berlin, 1895.

[1] For some of these recent items, I am indebted to Mr. Felix Neumann, to whose enterprise and labor the upkeep of the collections of bibliographical source-books in the Surgeon General's Library is largely due.

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Lilienthal (Sam.): Die jüdischen Aerzte. Münich diss., 1838.
Münz (L.): Die jüdischen Aerzte im Mittelalter. Frankfurt a.M., 1922.
Reiske & Fabri: Opuscula medica. Halle, 1776. supra.
Rosin (H.): Die Juden in der Medizin. Berlin, 1926.
Sablatzky (M.): Lexikon der Pseudonymen hebräischer Schriftsteller, Berditscheff. 1902.
Schorbel (S.): Jüdische Aerzte. Berlin, 1905.
Steinschneider (M.): Jüdische Literatur (Allg. Encyclop. 1850). English translation (London, 1857). Index [1600 Jewish writers], Frankfurt a.M., 1893.
—— Die hebräischen Uebersetzungen des Mittelalters und die Juden als Dolmetscher. 2 v. Berlin, 1893.
—— An Introduction to the Arabic Literature of the Jews (*Jewish Quart. Rev.*, 1897-1901, v, *ix-xiii*, passim).
—— Die arabische Literatur der Juden. Frankfurt a.M., 1902.
—— Jüdische Aerzte [List of 3014 Jewish physicians, with biographical references (1896), completed by A. Freimann and L. Lewin. *Ztschr. f. hebr. Bibliog., Frankf.* a.M., 1914-21.]
—— Catalogues of Hebrew MSS. in European libraries (Bodleian, 1852-60; Leyden, 1858; Parma, 1868; Munich, 1875; Hamburg, 1878; Berlin, 1878-97.)
Wininger (S.): Biographisches Lexikon berühmter Juden aller Zeiten und Länder. Pt. 1. Czernowitz, 1914.

Papal Physicians

Mandosius (P.): OEATPON. Rome, 1696.
Marini (G.): Degli archiatri pontifici. 2 v. Rome, 1784.

American Physicians and Sources

Allen (W.): An American Biographical and Historical Dictionary, Cambridge, 1809. 2. ed. Boston, 1832.
Allibone (S. A.): Great Authors of all Ages. Philadelphia, 1880. Supplement by J. F. Kirk, 2 v. Philadelphia, 1891.
American Medical Association. Quarterly Cumulative Index. 14 v. Chicago, 1916-27. (Biographical and Obituary Notices).
—— American Medical Directory. v. 1-10, Chicago, 1909-27.
Appleton's Cyclopædia of American Biography, 6 v. New York, 1887-9.
Atkinson (W. B.): The Physicians and Surgeons of the United States, Philadelphia, 1878.
Gross (S. D.): Lives of Eminent American Physicians and Surgeons of the 19th century. Philadelphia, 1861.
—— History of American Medical Literature (1776-1876), Philadelphia, 1876.
Index Medicus: 45 v. Washington, 1879-1927. (References to obituary notices).
Journal of the American Medical Association, Chicago, 1883-1928 (Obituary notices).
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Master-Surgeons of America, In: *Surg., Gynec. & Obst., Chicago,* 1922-8, xxxv-xlv, *passim.*

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Publisher's Weekly. 113 v. New York, 1872-1928. [Gives full names and identifies pseudonyms].
Stone (R. F.): Biography of Eminent American Physicians and Surgeons, Indianapolis, 1894.
Thacher (James): American Medical Biography. 2 v. Boston, 1828.
Toner (J. M.): The Medical Men of the Revolution. Philadelphia, 1876.
United States. *War Department, Surgeon General's Office.* Index Catalogue of the Library. 45 v. Washington, 1880-1928.
Watson (I. A.): Physicians and Surgeons of America. Concord, 1896.
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Eisenberg (L.): Das geistige Wien. 2 v. Wien, 1889-93.
Fuhrmann (Emil): Aerztliches Jahrbuch für Oesterreich. v. 1-8, Wien, 1906-14.
von Hormayer (J.): Oesterreichischer Plutarch. 20 v. Wien, 1807-14.
de Luca (I.): Das gelehrte Oesterreich. v. 1, pts. 1-2, Wien, 1776-8.
Oesterreichische National-Encyclopädie, 6 v. Wien, 1835-7.
——— The same. Porträten-Gallerie, Wien, 1837-8.
von Wurzbach (C.): Biographisches Lexicon des Kaiserthums Oesterreich, 60 v. Wien, 1856-91.

Belgian Physicians

Académie royale des sciences. Biographie nationale, A-C. 3 v. Bruxelles, 1866-72.
Bibliographie de la Belgique. 41 v. Bruxelles, 1838-84.
Bibliographie nationale. (1830-80). 4 v. Bruxelles, 1886-1910.
Biographie générale des Belges morts ou vivants. Bruxelles, 1850.
Blum (M.): Bibliographie luxembourgeoise. Luxemburg, 1902-4.
Broeckx (C.): Essai sur l'histoire de la médecine belge, Bruxelles, 1838.
——— Coup d'œil sur les institutions médicales belges, Bruxelles, 1841.
——— Documents pour servir à l'histoire de la bibliographie médicale belge, Bruxelles, 1847.
Delvenne père: Biographie du royaume des Pays-Bas, 2 v. Liege, 1828-9.
Dubois (F.): La Belgique médicale, Bruxelles, 1836.
Foppens (J. F.): Bibliotheca Belgica, 2 v. Brussels, 1739.
Piron (C. F. A.): Allgemeine Levensbeschryvinger der mannen en vrouwen van Belgia. Mecheln, 1860-62.
Pauweis-de-Vis (J.): Dictionnaire biographique des Belges, Bruxelles, 1848.

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Balbinus (A. B.): Bohemia docta. Prague, 1776-80.
Navrátil (Michal): Almanach ceskych lékaru. [Biographies and portraits]. Prague, 1913.
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van Abkoude (J.): Naamregister (1600-1787). 2. ed. Rotterdam, 1788.
Alphabetische naamlijst (1833-75), 4 v. Amsterdam, 1858-78.
Arrenberg (R.): Alphabetische naamlijst van bocken (1790-1832). 's Gravenhage, 173.
Banga (J.): Geschiedenis van de geneeskunde en van hare beroefenaren in Nederland, Pts. 1-2, Leeuwarden, 1868.
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van den Linden (J. A.): De scriptis medicis libri duo. Amsterdam, 1637. Revised by Mercklin (1686).
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Mourik (B.): Naamrol. Amsterdam, 1752.
Nijhoff (W.): Nederlandsche bibliographie von 1500 tot 1542. 6 parts. 's Gravenhage, 1919.
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Allibone (S. A.): A Critical Dictionary of English Literature. 3 v. Philadelphia & London, 1859-71. New ed. 3 v. Philadelphia, 1891-6.
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Beale (T. W.): Oriental Biographical Dictionary. New ed. by H. G. Keene, London, 1894.
Biographia Britannica. 6 v. London, 1747-53. 2. ed. 5 v. London, 1778-93.
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Biographies of English Surgeons. In: *Brit. Jour. Surg.*, Bristol, 1913-23, i-x, *passim.*
Boase (F.): Modern English Biography, 6 v. Truro, 1892-1921.
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Chalmers (A.): Biographical Dictionary. 32 v. London, 1812.
Dictionary of National Biography. 70 v. London, 1885-1927 (with Index and Epitome, 1903).
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Medina (J.): La imprenta en Mexico (1539-1821). 2 v. Santiago de Chile, 1907-9.

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Barbósa Machado (D.): Bibliotheca Lusitana. 4 v. Lisbon, 1741-59.
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Linnström (H.): Svenskt Boklexicon. 1830-65, Stockholm, 1863.
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——— Continuation by Wistrand, Hilarion [*et al*]. Stockholm 1853-76.
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Wolf (R.): Biographien zur Kulturgeschichte der Schweiz. 4 v. Zürich, 1858-62.

Thus far, we have considered mainly the raw material of medical biography, the source-books to which we must go in order to construct the plainest, barest outline of a given physician's life. Let us register a debt of gratitude to those who have done something more than this, to Eloy, Bayle, Thillaye, Jourdain, Callisen, Dechambre, Hirsch, Pagel and Billings, whose devitalizing labors were sometimes accomplished under conditions of great difficulty and privation, enduring work, not done for show, but on the principle of *aliis inserviendo consumor*, or, as Sainte Beuve expressed it, *mais en étouffant ma flamme*. The immense value of the sources listed by Hirsch is perhaps best appreciated in the Surgeon General's Library, where, in preparing the author-bibliographies for the Index Catalogue, the bibliographer must personally identify each item as the *bona fide* work of the given author and affix the dates of his birth and death (if accessible), to the initial entry. To carry on this work, the bibliographer must have a goodly number of these source-books around and about him, and here lists of physicians, well executed bibliographies of periods, nations or subjects, catalogues of articles indexed in periodicals and general biographical dictionaries are all helpful. Let us suppose, for instance, that he has a large number of medical pamphlets assigned to some very common surname, without a given name, *e.g.*, to "Doctors" belonging to the great Smith, Brown, Jones, Robinson, Mayer, Meyer, Miller, Müller, du Bois, Du Bois, or Dubois families. He must first locate some collateral clews to the writer's identity, *e.g.*, the city or hospital in which he practised, the place of publication, lists of his

other published works, if given on a flyleaf, or some internal evidence in the text.[1] If his native city or home town is known, one proceeds at once to such sources as the medical registers of the physician's country to ascertain, if possible, his probable given name or the date of his graduation. With this information in hand, it is comparatively easy to ascertain his full name and date of birth from his graduating dissertation, if he is a German, a Frenchman or a Russian. Failing this, one must cast about to some purpose in the French Annuaires, the Börner Reichs-Medizinal-Kalender or some other of the source-books listed, if anything positive is to be gleaned about him. Work of this kind requires great mental concentration. A bundle of French medical pamphlets under one common surname may require a full day's labor before they can be allocated to the proper authors, and sometimes even the merest straw will be all the searcher has to show which way the wind blows. If the book or pamphlet is undated, he must resort to the newer catalogues of incunabula, to Haller, Callisen, the Royal Society Catalogue of periodical contributions indexed by authors (1800-1900), the Index Catalogue or the Index Medicus. If the pamphlet is anonymous or pseudonymous, he must resort to the catalogues of literature of veiled authorship (anonyma and pseudonyma), of which Schneider gives a long list, *e.g.*,

INTERNATIONAL

Franklin (Alfred): Dictionnaire de noms, surnoms, et pseudonymes latins de l'histoire littéraire du moyen âge (1100-1530). 2. ed. Paris, 1879.

Geiszler (Friedrich): Disputatio de nominum mutatione et anonymis scriptoribus. Lipsiae, 1669.

Placcius (Vincentius): Theatrum anonymorum et pseudonymorum. Hamburgi, 1708.

Weller (Emil): Lexicon pseudonymorum. Wörterbuch der Pseudonymen aller Zeiten und Völker. 2. vermehrte Aufl. Regensburg, 1886.

BELGIAN

Delecourt (Jules): Dictionnaire des ouvrages anonymes et pseudonymes publiées en Belgique au 19. siècle. Bruxelles, 1863-66.

[1] In editing indexed articles for the Cumulative Quarterly Index Medicus (Chicago), identification is established by supplying the full given name, if available, as well as the city or institution in which the given author is active at the time.

[2] G. Schneider: Handbuch der Bibliographie, Leipsig, 1923.

Dutch

van Doorninck (Jan Izaak): Vermomde en naamlooze schrijvers der Nederlandsche en Vlaamsche letteren. 2. ed. 2 v. Leiden, 1883-85.

——— Bibliotheek van Nederlandsche anonymen en pseudonymen. 's Gravenhage & Utrecht [n.d.].

de La Montagne (Victor Alexandre): Vlaamsche pseudoniemen. Roeselare, 1884.

English and American

Cushing (William): Initials and Pseudonyms. 1.-2. series. London, 1886-88.

——— Anonyms. A Dictionary of Revealed Authorship. Vol. 1. 2. London, 1890.

Halkett (Samuel) & Laing (John): A Dictionary of the Anonymous and Pseudonymous Literature of Great-Britain. v. 1-4. Edinburgh, 1882-88.

——— The same, new and enlarged. Ed. by James Kennedy, W. A. Smith & A. F. Johnson. v. 1-2. A.-G. Edinburgh, 1926.

Hamst (Olphar) [*i. e.* Ralph Thomas]: Handbook for Fictitious Names. London, 1868.

Marchmont (Frederick): A Concise Handbook of Ancient and Modern Literature, issued either anonymously, under pseudonyms or initials. London, 1896.

Stonehill (C. A.), Block (A.) & Winthrop-Stonehill (H.): Anonyma and Pseudonyma. 4 v. London, 1926-27.

French

Barbier (A. A.): Dictionnaire des ouvrages anonymes. 3. éd. (Olivier Barbier, René et Paul Billard). 4 v. Paris, 1872-89.

Brunet (G.): Dictionnaire des ouvrages anonymes suivi des supercheries littéraires dévoilés. (Ed. Daffis). Paris, 1889.

De Manna (E.): Nouveau dictionnaire des ouvrages anonymes et pseudonymes. Nouvelle éd. Lyon, 1862.

Quérard (J. M.): Les supercheries littéraires dévoilés. 2. éd. (Gustave Brunet et Pierre Jannet) suivie. 1. du Dictionnaire des ouvrages anonymes par Antoine Alexandre Barbier. 3. éd.; 2. d'une table générale des noms réels. 7 v. Paris, 1869-79.

German

Holzmann (Michael) & Bonatta (Hanns): Deutsches Pseudonymen-Lexikon. Wien & Leipzig, 1906.

——— Deutsches Anonymen-Lexikon. 6 v. Weimar, 1902-11.

Italian

Melzi: Dizionario di opere anonime e pseudonime di scrittori italiani. 3 v. Milano, 1848-59.

Montarolo (G. B.): Bibliografia del risorgimento italiano: Opere anonime e pseudonime. Roma, 1884.

Passano (G.): Dizionario di opere anonime e pseudonime. Ancona, 1887.

Rocco (E.): Anonimi e pseudonimi italiani. Napoli, 1888.

Scandinavian

Bygdén (Anders Leonard): Svenskt anonym—och pseudonym—lexikon. 2 v. & Supplement. Upsala, 1898-1915.

Collin (Edgar): Anonymer og Pseudonymer i den danske, norske og islandske Literatur. Kjobenhavn, 1869.

Pettersen (Hjalmar): Anonymer og Pseudonymer i den danske, norske Literatur 1678-1890. Kristiania, 1890.

SLAVIC

[Dabczánska-Budzynowska] (Helena): Pseudonimy pisarzy polskich. Zebral H. D. Lwów, 1910.

Dolensky (A.): Slovnik pseudonymu v ceské a slovenské literature. 2. vyd. (V Praze, 1910).

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Karcov (V. S.) & Mazaev (M. N.): Oypt slovarja psevdonimov russkich pisatelej. S.-Peterburg, 1891.

Pseudonimy i cryptonimy pisarzów polskich zebrata J. Z. Warszawa, 1905.

SPANISH

Barros Arana (Diego): Notas para una bibliografía de obras anonimas i pseudonimas sobre la historia, la geografía e la literatura de America. Santiago de Chile, 1882.

Da Fonseca (Martinho Augusto): Subsidios para um diccionario de pseudonymos, iniciaes e obras anonymas de escriptores portuguezes. Lisboa, 1896.

Maxiriarth: Unos cuantos seudónimos de escritores españoles. Ed. corr. Madrid, 1904.

If so much labor is required to straighten out the minor and less known works of a given author, how much greater must be the toil necessary to construct the outlines of his life history, where no biographical records are available. For the older writers, Sudhoff regards work of this kind as of the utmost importance; and to ascertain a single date correctly as of far greater moment than (say) some jubilant rehashing of the life-history of an already well-recorded physician. To-day, with so many willing hands available, outstanding physicians are very well taken care of in this regard.* On the continent, a physician, who is prominent or eminent, may acquire ten or twenty obituary

* A remarkable exception was Emil Noeggerath (1827-1895), who, for many years after his death, was commemorated by seven lines in an obscure corner of Virchow's *Archiv* (1896, cxiii, 680) and has only just received adequate biographical notice at the hands of Paul Diepgen (*Klin. Wochenschcr.* Berl., 1927, vii, 1926), H. S. Reichle (*Ann. Med. Hist.*, N. Y., 1928, xi, 770-79) "for his centenary." Yet he was, with Jacobi, a founder of the *American Journal of Obstetrics* (1868) and through his doctrine of latent gonorrhœa (1872), which brought him much obloquy, he is now almost coequal and coeval with Semmelweis as one of the great benefactors of womankind.

notices after death or even a full bibliography of his writings. Pavloff, indeed, when the *canard* about his demise was circulated in 1916, enjoyed the unique distinction of reading full-length (and withal laudatory) obituary notices of himself, in the *British Medical Journal,* the *Lancet* and *Nature.* What has been written about Charcot and Osler would, if collected, make portly volumes. Judging by their facility in multifarious contributions to scientific literature, some of our illustrious contemporaries seem to have labored with a single eye to the sardonic dictum of Schopenhauer: Das Leben ist ein Pensum zum Arbeiten: daher ist *defunctus* ein schöner Ausdruck." This brings us to the more attractive phase of the subject, namely the finished medical biography, the kind which is eminently readable as a literary production. The best are those of:

Arbuthnot by G. A. Aitken (1892); Claude Bernard by Sir Michael Foster (1899); Beaumont by Jesse Myer (1922); Bretonneau (1892), Larrey (1902) and Recamier (1899) by Paul Triaire; Caius by John Venn (1912); Jerome Cardan by Henry Morley (1854); Daniel Drake by Otto Juettner (1909); Fothergill by Hingston Fox (1919); Sir Francis Galton by Karl Pearson (1914-24); John Hunter (1897), Victor Horsley (1919), Paget (1901) and Paré (1897) by Stephen Paget; Helmholtz by Leo Koenigsberger (1902); Huxley by Leonard Huxley (1900); Robert Knox by H. Lonsdale (1870); Linacre by Sir William Osler (1908); Linnæus by B. D. Jackson (1923); Lister by Sir Rickman Godlee (1918); Manson by P. H. Manson-Bahr (1927); Johannes Müller by Wilhelm Haberling (1928); Osler by Harvey Cushing (1925); Pasteur by Vallery-Radot (1900); Radcliffe by J. B. Nias (1918; Walter Reed by Howard Kelly (1913); Théophraste Renaudot by Gilles de la Tourette (1884); Sydenham by J. F. Payne (1900); Vesalius by Moritz Roth (1892) and J. William White by Agnes Repplier (1919).

It is noticeable that most of these are of comparatively recent vintage, written indeed within the last 25 years. Some of them, such as Karl Pearson's Galton, Königsberger's Helmholtz or Cushing's Osler, are truly scientific biographies, in which all the data have been ascertained, assembled and organized with the utmost exactitude. Roth's Vesalius, published in 1892, was the pace-maker, a great sea mark of a book, every line and footnote of which implies hours of incessant labor and devotion. Note-

worthy, are such shorter essays in medical biography as M. Salomon's Baglivi (1889), W. S. Miller's Chovet (1911-27), Joseph Collins' Duchenne (1908), Marx's Herophilus (1838), Sainte Beuve's Littré (1863), Virchow's Jöhannes Müller (1858), Strachey's Florence Nightingale (1918), Rowntree's Parkinson (1912), and the separate notices in Leslie Stephen's Dictionary of National Biography (London, 1885-1912), which in respect of accuracy as to dates and references, are perfect models of what such things should be. Another group comprises such arresting volumes of biographical essays as those of G. T. Bettany (1885), Sir Benjamin Ward Richardson (*Disciples of Aesculapius,* 1900), Osler (*An Alabama Student,* 1908), Victor Robinson (*Pathfinders,* 1912), John Ruhräh (*Pediatrics of the Past,* 1925) and Hemmeter (*Master Minds of Medicine,* 1927). Of necessarily looser texture are the autobiographies of remarkable physicians, of which one might make a formidable list, notably those of

Arlt (1887), von Baer (1865), Moritz Benedikt (1906), von Bergmann (1886-1906), Billroth (1894), Boerhaave (1743), Burdach (1848), S. C. Busey (1896), Charles Caldwell (1855), Sir C. A. Cameron (1920), Jerome Cardan (*De vita propria,* 1663), Jean de Carro (1855), George Cheyne (1743), Sir Robert Christison (1885-6), Ferdinand Cohn (1901), Hermann Cohn (1897), Sir William MacCormac (1884), Johann Dietz (1915), Donders (1889), E. C. Dudley (*The Medicine Man,* 1926,) Wilhelm Ebstein (1900), Georg Fischer (1921), Johann Peter Frank (1802), W. A. Freund (1913), Gegenbaur (1901), A. G. Gerster (1917), S. D. Gross (1887), Helmholtz (1891), the elder His (1903), Sir Henry Holland (1872), J. F. Horner (of Horner's triad, 1887), Hufeland (1896), Huxley (1891), Jung-Stilling (1777-1817), Javal (1901), Justinus Kerner (1849), E. H. Kisch (1914), Koelliker (1899), Franz Koenig (1912), Kussmaul (1899-1903), Lettsom (1817), Leyden (1910), Linnaeus (1826), Lorinser (1864), Malpighi (*Opera posthuma,* 1697), Alfred Meissner (1884), Moleschott (1894), Naunyn (1925), Pagenstecher (1913), C. H. Pfaff (1854), L. S. Pilcher (1925), Pirogoff (1894), Felix Platter (1840-66, 1878-1913), Henry Power (1912), Sir B. W. Richardson (*Vita medica,* 1897), Sir Ronald Ross (1923), C. L. Schleich (*Besonnte Vergangenheit,* 1921), J. H. Schulze (1743), Sir Felix Semon (1926), Marion Sims (1884), Robert Sommer (1922), Stromeyer (1875), Strümpell (1925), Trendelenburg (1924), Tschirch (1921), Victor C. Vaughan (1926), Carl Vogt (1845), Waldeyer (1921), Sir Hermann Weber (1919), M. A. Weikard (1784), Wiedersheim (1919), Winslow (1912), and Wundt (1920).

A recent serial devoted to the publication of brief autobiographies of German physicians (*Die Medizin der Gegenwart in Selbstdarstellungen,* 1923-7) is now in its seventh volume (1928). It will be evident from such indications as these, that biographically speaking, present day physicians are either well taken care of or well able to take care of themselves. The selection of a likely biographer by a physician and the composition of the biography during his lifetime is a process not unknown to medicine. But what of biographical dictionaries of physicians of the reliable type of Jourdain or Hirsch, which are so sorely needed for the twentieth century men? who will be the Hirsch or the Pagel of the future? The prospects are by no means as alluring nor as easy of realization as might appear. Living as we do, in a transition period, a period as yet devoid of definite tendency, the proliferation of medical literature alone since the war, apart from the present gigantic literature of general biology, is a phenomenon which may well give us pause—

"Perplexing the bravest
With doubt and misgiving." [1]

It is said, for instance, that some 6000 periodicals are drawn upon annually for the publication "Biological Abstracts," while the number of new institutions devoted to biology and medicine which have sprung up recently in European cities is unparalleled outside of Soviet Russia. Where Leningrad has three separate Medical Institutes along with an Institute of Experimental Medicine, a Phycho-Neurological Academy, a Psycho-Therapeutic Institute, an Institute of Röntgenology and Radiology, a State Physico-Technical Röntgen Institute, Moscow has two state universities, a Communistic Sverdlov University, a Communistic University for National Minorities in the West, a Stalin University for Oriental Activities, a Sun Yat Sen University for Chinese Students, Institutes for Nutritional Physiology, Tropical Diseases, Microbiology, Endocrinology, Venereology, Social Hygiene, not to mention the Ethnopark, the Giant Magnet and the Zoopark. There

[1] Goethe: *Trauerloge,* Carlyle's translation.

are four separate universities in Prague (for Czechs, Germans, Russians and Ukrainians), a Central Institute for Investigating the Brain and a Society for Racial Hygiene at Graz (Styria), a Society for Elucidating the Mystery of the Divining Rod (*zur Klärung der Wünschelrutenfrage*) in Munich, a Kolloid-Gesellschaft in Leipzig, an Institute for Investigating Albumens in Heidelberg, an Institute of Mycology and a Phonetic Laboratory in Hamburg, a Laboratory of Vegetable Biology at Fontainebleau, a Society for the Study of Physiognomy in Berlin, archæological museums all over the old Ægean and Ionian regions, with ephors in charge, and even an Instituto Biologico (1922) at Guadalajara (Mexico). More appalling still, the majority of these institutions and societies are in the way of publishing monographs and transactions. Most of them, it is true, are post-bellum foundations and some may turn out to be mushroom growths. But the Paris Conservatoire (1795) and some other French experiments of the post-Revolutionary period are now flourishing, stabilized institutions. On the other hand, the Hermitage, founded by the great Catherine in 1765, weathered the Revolution of 1917 and is still the finest collection of paintings in Europe. The difficulty with the proliferations following the European War is that their output, like some vast inundation over a broken dam, is beyond the control of librarians and bibliographers. To keep track of the identities, full names and dates of birth of the gigantic personnel implicit in these developments would be an even more momentous task. Some years ago, Dr. Howard Kelly (Baltimore), as well as Professor Karl Sudhoff (Leipzig), entertained the idea of a General (International) Dictionary of Medical Biography, to be carried forward by international cooperation, but the difficulties of financing and organizing such an enterprise seem unsurmountable. It implies virtual whole-time labor on the part of a definite number of expert physicians, most of whom (if available) could not afford to desert their livelihood for such work. Apart from Dr. Kelly's Cyclopedia, American physicians will be well taken care

of in the *Dictionary of American Biography,* now edited by Professor Allen Johnson under the auspices of the American Council of Learned Societies (Washington), albeit a rigid (and withal very sensible) system of exclusion is applied to names not distinguished for any outstanding achievement. For the composition of biographical notices of physicians for an international dictionary of this kind, Gurlt (in the last volume of Hirsch, 1888) gives the following effective rules:

A. Personal Data. Given name (in full). Authentic dates of birth and death (days of month, if possible). Dates of important events in subject's life (year only). Name of father only when a physician, or otherwise prominent or eminent (applicable also to mother or other relatives). Schooling, if of consequence. University and medical training (dates of graduation), with medical teachers, if outstanding, significant or founders of a school of thought. Medical travels (dates). University chairs, public positions and honors (dates). Prizes, membership in important societies, orders. Important activities other than medical. Personal characteristics (only for the most eminent of the past and never for the living).

B. Bibliography, Graduating theses (Inaugural and Concours) if important. Books, pamphlets and contributions to periodicals (only those which have exerted a decisive influence upon science or are otherwise outstanding), with dates. References only when valuable or important.

C. Sources. Biographical and bibliographical sources can be indicated at end with utmost brevity and perspicuity.

In the Dictionary of American Biography, more attention is paid to genealogy and personal traits, but brevity is insured by allotment of a definite number of words, while rigorous authentication of facts and dates is essential. It is highly probable that the different nations will, in time, give a good account of themselves in similar productions, but the composition of an International Dictionary of Medical Biography of the quality of Leslie Stephen's Dictionary of National Biography is a problem so hazardous that it provokes all the inertia and fear of the untried which is one of the most salient traits of the human mind. The most effective solution to date is in such compilations as the *Deutscher Gelehrten-Kalender* (Kürschner, 1926), which gives the effective scientific achievements of contemporary workers, with dates, or the

Biographisches Jahrbuch. Some of the functions of these might be well taken over by the various Who's Whos which abound at the present time. Should any group of physicians be in position to make essay of the more difficult and hazardous enterprise, they will find their work cut out for them in the lists supplied above.

F. H. GARRISON.

PAPERS DELIVERED AT STATED MEETINGS

Symposium on Graduate Medical Education
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I.

TWELVE YEARS' EXPERIENCE OF THE UNIVERSITY OF MINNESOTA IN GRADUATE MEDICAL EDUCATION

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Historical

For several years prior to 1915 the University of Minnesota in common with other universities had been offering graduate work in the basic medical sciences. In 1914 it began graduate work in various fields of clinical medicine and surgery.

At the Mayo Clinic at Rochester, Minnesota, the training of medical graduates for special work in pathology, clinical medicine and surgery, by means of internships, residencies and assistantships in connection with research work in the laboratories, had been developed until in 1912 regular three-year courses were in operation.

On June 9, 1915, the University of Minnesota and the Mayo Foundation for Medical Education and Research, through the leadership of Mr. George H. Vincent, then President of the University of Minnesota, and Dr. W. J. Mayo of the Mayo Clinic, entered into an agreement by the terms of which the funds and income of the Mayo Foundation should be devoted, under the direction of the Board of Regents of the University of Minnesota, to the promotion of graduate medical education and research. After a year and a quarter trial period the funds and income of the Mayo Foundation were, in September, 1917, transferred entirely to the Regents of the University. Thus

the Mayo Foundation became an integral part of the University of Minnesota, controlled entirely by that body. At the same time the Mayo Clinic entered into an agreement with the University of Minnesota whereby it agreed to furnish to the University the free use, for teaching and research, of all its clinical material, laboratories, museums, library and such offices as might be used, by the Mayo Foundation. On this basis for more than twelve years, the University of Minnesota has conducted graduate work in medical education and research in the Mayo Foundation at Rochester, Minnesota, as well as in its medical school in Minneapolis, Minnesota.

Organization

The entire graduate work in medicine at the University of Minnesota is made a part of the general Graduate School. Its management is vested by the Board of Regents in a Committee consisting of: the President of the University, the Dean of the Graduate School, the Dean of the Medical School, the Director of the Mayo Foundation, four appointed members of the Faculty from the Medical School, and four appointed members of the Faculty from the Mayo Foundation. This Board is divided into a Medical School Section and a Mayo Foundation Section, each of which holds frequent stated meetings and has a large degree of autonomy in its own affairs. Quarterly meetings of the entire Board are held where all the work of each section, since the preceding meeting, is reviewed, and all general policies affecting both sections of the school are discussed and recommendations thereon made to the President of the University.

Resources (Financial)

Graduate work in the Medical School at the University is supported out of the general budget of the University principally by grants made biennially by the State Legislature.

The graduate and research work in the Mayo Foundation is supported by the income from the Mayo Founda-

tion Fund of somewhat over $2,000,000, and in addition, since 1919, by the income from the Endowment Fund of the Mayo Clinic, which fund now somewhat exceeds $8,000,000. The budget of the Mayo Foundation for the year ending June 30, 1927, was slightly over $467,000.

Resources (Scientific)

The scientific resources of graduate medical work at the Medical School consist of all those educational facilities, used in part by the undergraduate medical students, and those at Rochester of facilities previously mentioned which are provided gratis by the Mayo Clinic. It should be noted, however, that besides the hospitals, clinical examining rooms, library and museum, there are now about 150 rooms used for laboratories at Rochester and of the staff of 132 physicians, physicists and chemists, eighteen are engaged wholly in research work and twenty-two in part-time laboratory research work. Most of the others are devoting a considerable portion of their time to clinical research. All the staff are on a "full-time" basis.

Methods

Since the beginning of the graduate work in medicine at the University of Minnesota no attempt has been made to multiply opportunities for securing simply technical training through practitioners' courses.[1] Graduate work has been definitely planned to provide opportunities in three to five years of work for the well-prepared, serious-minded student to fit himself in the science as well as in the art of some special field, as in a basic medical science, or in clinical medicine or clinical surgery.

Graduate students have been selected on the basis of their superior qualifications, from a very large number of nominally qualified applicants. Thus during the past year

[1] The University through its Extension Department gives "Short Courses for General Practitioners" and through the Mayo Foundation "Clinical Weeks" in special fields, but these do not lead to graduate credit or "certificate" and are wholly unrelated to the graduate work under discussion here.

there were more than 1200 applicants for fellowships in the Mayo Foundation and of these less than 100 were accepted. There are at present about seventy men and women doing graduate work in medicine at the Medical School in Minneapolis and 287 in the Mayo Foundation.

In the Mayo Foundation there are no classes. There are during the year three lectures a week by members of the Faculty and an average of one lecture a week by some eminent authority outside the Faculty. Attendance at all these lectures is purely voluntary. Those given by the members of the Faculty are confined largely to a discussion of the newer advances in the various fields of medicine. Those by extramural lectures are of two types: First, a series each year on some topic of general interest in scientific fields closely related to medicine, as heredity, nutrition, or plant pathology. The second group consists usually of unrelated lectures determined by the selection of eminent men who can be induced to talk on topics of their greatest personal interest. A course, begun last year and which will continue for the next five years, consists of six lectures a year on special topics in the history of medicine.

These 200 lectures constitute almost everything in the nature of didactic teaching which is done in the Mayo Foundation. But the graduate students are working in close association with the members of the Faculty. The groups average a few more than two graduate students to one member of the Faculty. Their daily work, whether in research, routine laboratory, or routine clinical departments, is thus under the immediate personal supervision of staff members.

Perhaps the most important instruction aside from this daily supervision is in the seminars which are held in some sections every day and in most departments at least once a week. It should be noted, however, that these seminars are very informal and the students' opinions are expressed as freely as are those of the members of the Faculty. As a whole the seminars are most enthusiastic affairs.

Appointments

The minimal length of appointment is for three years; the maximum is five years; the average length of residence is four years. The only exceptions to the minimal three-year-period of residencies are made to accommodate fellows, or members of teaching staffs of other universities or foundations, or of government services who are accepted for periods of six months or more.

Student Support

In the Medical School most graduate students receive living stipends from appointments as teaching fellows in their major or minor fields; a few pay their own tuition and living expenses. In the Mayo Foundation all graduate students except those from other universities are on Foundation stipends. Fellows in the basic medical sciences receive stipends of $900, $1200, $1500 a year, the first, second, third years respectively. Fellows majoring in clinical fields receive $800, $900, $1000 for the first, second, third years respectively. Fellows in clinical research receive the stipend of fellows in basic sciences while they are engaged in research and the stipend of fellows in clinical fields while engaged in clinical work. In addition to the above most fellows receive appointments as first assistants either in their third or fourth years which give them $1000 a year in addition to their regular stipend. A single man can live comfortably in Rochester on the minimum stipend paid in any field.

Courses of Study

While in the University Bulletin there is given a formidable list of detailed "courses" these are really only integral units for purposes of registration and evaluation of graduate credits. The student is requested to indicate before his acceptance only his major and minor fields of study. He is expected to put in a minimum of two years in his major field and a minimum of six months in his minor field. His minor field must be a basic medical science

and lend support to his major, which latter may be another basic science or a special clinical field.

For his first quarter's residence, unless he has indicated some other preference to the contrary, the fellow works in his minor field or in some non-clinical coördinate department. Before the end of his first quarter he is usually sufficiently oriented so that he is able to select intelligently his residence for the several succeeding quarters of his first three years.

The unit of residence in most departments is six months though in a few it is three months and in first assistantships it is one year. Each man is very conscientiously graded each quarter by the chief of the department in which he is studying. These grades furnish a guide to the Director of the Foundation in preparing the quarterly schedules of personnel and are the fundamental basis for determining prioriyt in conflicting requests for the same service. As a result of their use each quarterly change of schedule, which cocerns about one-half of the graduate men, provides about 75 to 80 per cent. of the graduate students with their first choice of work; 10 or 15 per cent. with their second choice, and the remaining 5 or 10 per cent. take work for which they did not ask but which is always in the line of their major field.

Advanced Degrees

The following are the minimal requirements for recommendation to the Board of Regents for the degree of Master of Science with the field named, as Master of Science in Pathology, Master of Science in Surgery:

1. A minimal residence of two years in medical sciences, or three years in clinical fields.

2. No quarterly grade below *B* in the major field or below *C* in the minor field. Quarterly work graded below these points cannot be counted for residence.

3. The certification of all the members of the Faculty with whom the student has worked that in their opinion

he is competent to do good teaching or research in his major field if that major is a fundamental medical science or that he is competent to begin practice in a scientific manner without supervision in his major field if that major field is a clinical specialty.

4. The successful passing of a series of routine examinations in his major and minor fields. These examinations are designed to be, if possible, a little more difficult than those given in the same fields by any state or national board of medical examiners.

5. The unanimous approval of his thesis by a committee of five members of the Faculty. This thesis must embody the results of his personal study. It is not necessarily an elaborate piece of original research.

6. His recommendation by a jury, usually of eight or ten members of the Faculty, who review the record of his entire work in the university and give him a two-hour oral examination in the fields of his major and minor subjects. If the candidate is successful in his examination he is recommended by this jury to the Board of Regents to receive the degree of Master of Science in his major field.

7. For the degree of Doctor of Philosophy with field named, all the requirements used previously for the Master of Science must be met and in addition the candidate must have had a minimum of three years of residence, have passed thorough examinations in French and German, and submitted a thesis which embodies, as the result of his own research, a substantial contribution to the science of his major field.

In other words, the attempt has been made to insure the granting of the Master of Science degree only to those students who appear competent to do good teaching or research or thoroughly dependable clinical work in some special clinical field. The Doctor of Philosophy is reserved for those who in addition give evidence of decided ability in research.

Summary of Registrations

Starting with an attendance of 79 graduate students in 1915 the number has gradually increased until at present there are 357 graduate students. The average number of graduate residents each year for the last five years ending June 30, 1927, was 297. Of these the average number in *basic sciences* was *65*, distributed as follows: Anatomy, 18; Physiology or physiological chemistry, 18; Bacteriology, 13; Pathology, 13; Pharmacology, 3. The average number in *internal medicine* and *clinical medical specialties* was *104*, distributed as follows: Internal medicine, 63; Pediatrics, 13; Dermatology, 7; Obstetrics, 6; Neurology, 5; Preventive medicine, 5; Roentgenology, 5. The average number in residence in *surgery* and *surgical specialties* was *128*, distributed as follows: General surgery, 97; Ophthalmology, 10; Otolaryngology, 10; Urology, 7; Orthopedics, 4.

So far as one can observe the trend over so short a period as gaged not only by the number of graduate students accepted, which is determined in large measure by the facilities available, but also by considering the relative number of applications in the several branches, it may be stated that while there is no falling off in the number of applicants for fellowships in surgery there is a very great increase in the number applying for work in internal medicine and medical specialties. At the same time there is a slight increase in those seeking opportunities to major in the fundamental medical sciences, especially pathology, anatomy and physiology.

Applications

Of the 1200 applicants each year for fellowships in the Mayo Foundation, about 90 are taken on service. Of the ones who are accepted their average age at graduation from medical school is a little under twenty-five years, that is about two years less than the average age at graduation of all graduates from Class A medical schools. This shows a tendency to the selection of younger men. No one beyond

thirty-five years of age is accepted and seldom anyone beyond thirty years. The average age at taking up residence in the Mayo Foundation is a little over twenty-seven, an average of about two years and four months having elapsed between the date of graduation from medical school and the date of beginning work in the Mayo Foundation.

Previous Preparation

About one-third of the fellows have completed four years of college work before beginning the study of medicine. All of the others have had two or three years of college work leading, in some instances, to the attainment of the Bachelor's degree during their subsequent medical course. All have graduated from American Class A schools or those of equal standing in foreign countries. The largest number from any one school are from the University of Minnesota and the next from the University of Pennsylvania, with the Universities of Chicago, Michigan, Johns Hopkins, Northwestern, Toronto, Harvard, Virginia and Iowa, closely following in the order named. About 10 per cent. ore from foreign universities, not including in these men from Canada. At present there are sixty-two universities represented by the students now enrolled.

After graduation from medical school the average of two years and four months training before coming to the Mayo Foundation has been spent as follows: An average of fifteen months in hospital residence, three months of additional laboratory service, and ten months in general practice.

Civil State

About one-third of the fellows are married before taking up residence in the Mayo Foundation. About one-sixth of the fellows get married while in residence. Thus one-half of them are married before leaving. Married men cannot support their families on fellowship stipends unless they receive first assistantships (usually near the end of their third year) and thus additional stipends.

Period of Residence

During the first twelve years of the Mayo Foundation's experience as a part of the University, beginning in 1915, about 10 per cent. of the fellows have left during or at the end of their first year. About one-half of these have left by request of the Faculty, the remainder of their own volition, usually because of financial or family reasons. Of those who have remained beyond the probation period the average period of residence during the twelve years has been thirty-three months for fellows majoring in preclinical branches, thirty-seven months for those majoring in internal medicine and related medical specialties, and forty-one and one-half months for those majoring in surgery and surgical specialties. This of course covers the period of the Great War and of readjustment thereafter. The average residence period at present, that is during the last five years, is approximately four years for all groups.

Work While in the Foundation

1. Preclinical fields. The fellows majoring in preclinical fields, physiology, pathology, and so forth, have averaged 27.3 months full-time experience in laboratory work in their major field and 5 months full-time experience in laboratory work in their minor or related preclinical fields.

2. The fellows majoring in internal medicine and the related branches have averaged 29 months full-time experience in their own major clinical fields and a little over 8 months full-time experience in their minor or other clinical or related fields. In their major fields about two-thirds of their time has been spent in diagnostic work and about one-third in hospital residence. In the diagnostic service they average about four new cases a day. This seems to be a very small number but it must be remembered that practically all the cases seen are complicated, otherwise they would not have been referred to the Mayo Clinic by their home physicians. The hospital residence in most instances has been specialized, that is, the fellow for a certain period has had the care of only one type of case, as renal, thyroid, cardiac, and so forth.

Of the fellows majoring in internal medicine and related branches about one-half took their minor work in pathologic anatomy, about one-fourth in physiology and physiological chemistry, and the remaining ones in bacteriology, serology, and so forth. Many fellows after a quarter or two in their minor (preclinical field) have carried on their studies in this field for several years coincident with their clinical work. Much the larger number of theses require study wholly or partially within the minor field. There is a strong tendency toward the increase of time spent in research in the basic medical fields.

3. Of the fellows majoring in surgery and surgical specialties the average service of forty-two months was divided into an average of six months of full-time laboratory service in their minor field (in most instances in pathology), one year in diagnostic work and two years of operative work. During about three-fourths of the latter two years they were resident in the hospital. Fellows majoring in surgery have shown the tendency to relate the whole or major part of their thesis material to their minor field, though in most instances it has had also a definite clinical bearing.

Publications

Each graduate student who is a candidate for an advanced degree must present a thesis. This is not necessarily published. Indeed many of them are published only in title, and most of them in abstract or abridgment. There are, however, about sixty papers a year which are published complete or in abridgment, by fellows of the Foundation.

Degrees

From 1915 to the end of 1927 the University of Minnesota has granted for work done under the auspices of the Graduate School but in the Medical School at the University and in the Mayo Foundation, a total of 282 advanced degrees. Of these 239 were Masters of Science (with field named in the case of all candidates previously holding the

M.D. degree), and forty-three were doctorates in philosophy. Of these 282 advanced degrees, 111 were in the basic medical sciences distributed as follows: 37 in anatomy; 29 in physiology; 22 in pathology; 18 in bacteriology: 5 in pharmacy. Fifty-six were in medicine and the medical specialties. Of these 21 were in internal medicine; 10 in neurology; 8 in obstetrics; 8 in pediatrics; 4 in dermatology; 3 in preventive medicine; 2 in roentgenology. There were 115 in surgery and surgical specialties. Of these 87 were in general surgery; 11 in urology; 9 in ophthalmology; 4 in otolaryngology; 4 in orthopedics.

It should be noted that a very considerable number of graduate students who have fully completed their residence requirements in the university but who have had to leave before the completion of their theses or other formal requirements are still eligible for their advanced degrees and it is expected that a fair proportion of them will yet successfully complete the requirements and be recommended for the degrees which they seek.

The relatively small number of men out of the total number of eligible candidates who have completed all the requirements for the degrees in the fields of internal medicine and related medical specialties, is accounted for by the fact that there is so large a demand for properly trained men in these fields that many graduate students have been tempted to leave before they have completed their graduate study or thesis work. Many of these are technically on leave and hope at some time to return and fulfill the requirements for their degrees.

Despite these two explanations it must be recognized, however, that even in the face of the very careful initial selection of personnel there is a considerable percentage of graduate men who are unable to meet the requirements for an advanced degree. If I were asked to name the chief reasons for failure of these groups I should say it was largely because of two factors: (1) Inadequate training

in medical school in the basic medical sciences, particularly physiology and pathology, and (2) lack of personal initiative.

While there is no obvious pressure brought on students by the Faculty to force them into high speed of work yet it is true that the men themselves set a very rapid pace and a man who is capable of doing only average work very soon finds himself so far in the rear that he is apt to give up. Such a one, of course, receives much personal attention from his chief but it is not the policy of the Graduate School to coddle weaklings and they are advised to go into other fields in which their slow gait may not be so obvious an impediment to their success.

Distribution of Alumni

Nearly 500 graduate students who have been one year or more in residence have left the two sections of the department of graduate medicine in the University. These are ordinarily referred to as alumni, though only 282 advanced degrees have been granted. About 70 per cent. of all the alumni are now in whole or part-time teaching or research positions in universities. A few who majored in preclinical sciences are now in charge of laboratories in large hospitals without teaching affiliations. About 80 per cent. of all those who are engaged in consultation practice either whole or part-time are in group clinics, or other partnerships. Slightly less than 20 per cent. are in consultation practice alone. So far as I have been able to determine only thirteen individuals have gone into general practice. These for the most part are men who left the Foundation after only a relatively short period of residence, their average stay in the Foundation being sixteen months. Of those holding academic rank, about one-half are still instructors, one-third assistant professors, and one-sixth associate professors or professors. There is one Dean of a medical school! In extenuation I may add that he is also professor of surgery in the same institution.

While no accurate figures are at hand or indeed possible one gathers the impression, even on a very conservative basis, from talking with the alumni, a large percentage of whom return for their annual reunion, that the period of "arrival" of men in clinical fields after leaving the University is from five to seven years. By date of "arrival" I mean that time at which a consultant is obtaining as much clinical work as he can carefully do. When we remember that these men have begun their graduate work at an average age of slightly over twenty-seven years, have left at an average age of thirty-one years, their age of arrival would appear to be thirty-six to thirty-eight years. This, I believe, to be a very favorable showing in comparison with that of able men who have "arrived" by various other methods of training. So far as I can determine men in medical and surgical specialties in the country at large arrive at about forty years of age. But of course there is a very great variation in different parts of the country and with different men in this regard.

Summary

To sum up: The University of Minnesota, in an experiment lasting twelve years, has organized its laboratory, research and clinical facilities to give opportunity to young medical graduates of superior ability who have had about two years' experience, since graduation, in a hospital, laboratory, or in general practice, to fit themselves during an average period of four years for teaching or research in a basic medical science or for teaching, research and practice in a special clinical field of medicine. The work has in no way interfered with the progress of the undergraduate medical school. On the contrary, it has very greatly stimulated the ambition and character of the work of the undergraduate students. The organization of the work as a part of the general Graduate School of the University, instead of a part of the Medical School, it is believed, has been a very decided factor in the development of high standards and appropriate methods in a field where previous university experience was almost entirely absent.

The product judged by the character of the research of the graduate students, their teaching ability, and by their skill and success in clinical fields, is very much more satisfactory than had been hoped for. There is every reason to believe from present indications that this product in the future will be greatly improved in all the particulars named. It is to be hoped that many other universities may see their way clear as a few are now seeing it to develop similar graduate medical work, for which there is a very large legitimate demand.

II.

ON THE FUTURE OF GRADUATE MEDICAL EDUCATION

Ludwig Kast

For any discussion of Graduate Medical Education it is necessary first of all to define the meaning of the term. In a larger sense everything is Graduate Medical Education that contributes to the physician's progress: His practice, medical meetings, consultations, medical literature, post-graduate courses, etc. They are all part of his graduate opportunities but for our discussion it is essential that the term be circumscribed to a clearer meaning. The following definition is suggested: Graduate Medical Education is the organized, planful opportunity and guidance of physicians in their mental and technical development after graduation. In this definition emphasis is placed upon the word guidance. To anyone sufficiently experienced in graduate teaching this will at once appeal. Some physicians do not know how much and where they lack in knowledge or method—but the majority do know it and are anxious to improve, but even they often do not know how best to go about it.

Graduate Medical Education cannot be considered by itself. It is only a part of the bigger problem of medical education as a whole. Graduate Medical Education begins after graduation and it never ends.

Medical education as a whole is necessarily based upon some fundamental conception of its purpose and aims. Obviously the aim of Medical Education is to train men and women to be physicians and their helpers for the service of individual and collective health. Since the health service of communities necessarily overlaps and is closely interdependent it must be conceived in any community as part of a national health service. National Health Service in our present civilization has other functions besides the service of the individual doctor to the individual man in his illness. There is preventive medicine; the handling of epidemics, the hygiene of babies and school children; there is hygiene in industry, for mental defectives; the care of the incurables and insane, medical research, medical education; the education of the public for the benefit of individuals as well as for the affairs of communities. In other words a National Health Service includes all the functions by which medical sciences are brought into the service of our commonwealth. Of any National Health Service, medical education naturally is the backbone.

In discussing Graduate Medical Education we must be clear in our mind as to its relation to medical education as a whole, and as to its relation to our National Health Service, which in turn must be brought into relation with the actual problems in our daily practice. It is obvious that in educating a physician for service in Persia or in China he will need different mental equipment than if he were to practice in New York City. Each country must necessarily work out its own method of Graduate Medical Education. This is an important conclusion because we cannot rely upon importing from any other country a scheme suitable for our own needs. We must take the best we find elsewhere but work it out in our own way. Furthermore, if our educational system is to provide for the future as well as for the present, it must come to an understanding with what is most likely to be the aim and method of the future practice of medicine which may not be the same as our present aims. It is a tendency of the human mind to express future problems in terms of past experience,

and it is not surprising, therefore, that discussions on Graduate Medical Education are at present proceeding in terms of more medical meetings, more practical courses, better post-graduate schools. But after one goes more deeply into the study of the fundamental forces which are carrying along progress in medicine, one is led to seek new terms for what the practice of medicine will be in fifty years from now. All we need to do is to go back fifty years and from the utterances of that time we can see how very few were able to visualize what the last fifty years have produced. Who would have thought fifty years ago of the Academy of Medicine as it stands and functions to-day or of the medical center or of the Mayo Clinic? Who would have thought then of our present development of public hygiene and preventive medicine as supported by the Rockefeller, Carnegie and the Commonwealth Foundation? No one would care to predict what the practice in New York will be in fifty years. But an attempt should be made to look into the future to see, at least, in what direction we are moving. The perspective that opens is along the lines of forces which are already recognizable at present. To begin with we might raise the question: Is our nation at present receiving the best Health Service which it could receive? The answer is twofold: In many ways our nation is receiving a service that is most creditable. Astonishing results have been accomplished. We need refer only to the prolongation of average life—to the change in infant motarity; the gradual control of Tuberculosis; prevention of epidemics; the Panama Canal; the better control of hookworm disease. On the other hand a few figures will show how much there is still to be accomplished.

Of our men drafted for military service in the world war, over 40 per cent. were found unsuited for military service; a large proportion of these men proved to be in a physical condition which rendered them also unfit for productive civil life—and of these a large proportion proved to have remediable ailments aside from those who would have been hospitalized at once.

Over 500,000,000 dollars worth of life insurance has been rejected recently in one year because of impaired health of the applicants.

Over 50 per cent. of our school children have decaying teeth; over 25 per cent. have defective vision and over 30 per cent. have other easily recognizable and remediable handicaps of their growing bodies. Several millions of our children are growing deaf and permanently injured by neglected or malattended causes as anemia, chronic digestive impairments, tuberculosis, rickets, neglected infections of air passages and rheumatism.

Nearly a million people have tuberculosis and over a million boys and girls, at present attending schools are potentially mental cases, a large proportion of which will under present conditions inevitably become hospitalized, delinquent or insane. Millions of young people are maladjusted to their problems and environments of life and receive no constructive guidance. There are about one million patients with diabetes, one-half million with malaria, more than three millions with hookworm.

Several millions of people are now suffering from affections of their heart, kidneys and arteries which will shorten their usefulness, earning capacity and duration of life. To this can be added cases of preventable deaths from unnecessary, delayed or miscarried surgery and from inadequate medical diagnosis and therapy.

Over 500 million dollars are spent yearly for drugs and the economic cost of illness in our country has been estimated at over two billion dollars annually.

It is estimated that the loss of lives needlessly lost in our country from disease alone expressed in deduction from our national capital value is over 6 billion dollars annually. Anyone experienced in the practice of medicine knows that to these staggering defects of a national health service in a country more prosperous than any nation ever has been, must be added suffering and much unhappiness based upon medical problems which cannot be

included in statistics. We must also remember the urgent tasks waiting for legitimate medicine to bring better order theoretically and practically into our knowledge concerning the relation of individual psychology to physical ailments. When legitimate medicine will not hesitate to use terms of spiritual order in its interpretation of individual malady it will lift itself up from the level of chemico-physical biology to a higher order of science and art of healing.

For most of these problems in the health of our nation medical sciences offer by early prevention and by treatments, much relief. But there is a spread between what is being accomplished and what should be accomplished with proper training, organization and financial support. The spread between what is accomplished and what might be accomplished—the difference between the attained and the attainable—we might term our *"contemporary slack."*

There is general agreement that this contemporary slack is primarily not the fault of the medical profession but lack of organization. But even if all the requirements were put at our disposal to take up our contemporary slack, we could not do it because there are not enough physicians trained for this work and there are no adequate facilities for training them on short notice. On the other hand *everything worth while that has been done in this country to improve individual and collective health-work was done through the initiative and through the sacrifices of the medical profession and logically the public remains indifferent to these problems since it is accustomed to and expects the medical profession to attend to these matters.*

In a way this is rather fortunate, because the alternative might be that inexperienced, though well meaning, people would build up mechanisms of health-service under political or haphazard control instead of under the only wise control of the medical profession in collaboration with communities.

The first task of Graduate Medical Education, would be, therefore, to take up our contemporary slack. While

this takes place, however, medical sciences will continue to bring forth new discoveries and new improvements in diagnosis and treatment.

Graduate Medical Education must therefore be flexible enough to take on also the dissemination of recent progress because a young doctor, even if he were turned out after graduation and hospital year at 100 per cent. perfection, which he is not and cannot be, will fall behind progress in a few years unless he has opportunity for graduate work.

A survey of medical literature shows that about five years represents a fair measure within which at any time in the last thirty years sufficient advance was made in diagnosis or therapy to render a practitioner less efficient, in the measure of his day, for not knowing it. A physician who has taken no graduate work for five years may still catch up, so to speak. After ten years only the exceptional man can find contact again with the advancing front and after fifteen years he is hopelessly behind times. This is true particularly about the general practitioner but is also true about the specialist.

Graduate Medical Education therefore must be conceived as a continuous educational opportunity that links medical practice to undergraduate training and also to the sources of new discoveries in the science and technic of medicine. The problem is how to bring speedily the benefits of medical sciences to the outposts of practice, to the ultimate consumer so to speak, which is the individual in health as well as in illness. For we must think of the practice of medicine not as a business nor merely as a science or as an art, nor as a profession but as a *social need,* as a commodity, essential in the life of our nation, a commodity which has its source of supply, its market value, its channels of distribution and its ultimate consumer. As a system so conceived, it must find close contact with the rest of the forces which make up our present day civilization, the health problems of communities, our economic problems and the philosophies of life which furnish the driving force in different classes and different parts of our

country. In other words we must think of Graduate Medical Education and of Medical Education as a whole in terms of social-mindedness.

The social-minded interpretation of medicine is the big problem of our generation. Just as our country has created new standards for essential services rendered by organized business to our Commonwealth, so is Health Service assuming the importance of a public utility. As such it is neither State property nor private property any more. Its right of existence lies not in priestcraft nor any more entirely in the personal relation between patient and physician, but in its service to the public and its support should rest in the interest of the same public. Likewise the medical profession is entitled to its legitimate moral and financial support and its legitimate material reward for services rendered.

The more social-minded our Health Service becomes the more right it has to claim the means for carrying on its present service and future growth. Social-mindedness does not stop at the profession of altruistic motives, but attempts to be efficient and economical. No one can reasonably maintain that our Health Service is efficient or inexpensive. It is probably the best we can do now, but the next twenty years will see a development that is likely to be surprising. Already the forces are appearing in strong surface currents. Graduate Medical Education will be one of the strongest. There is no danger of lack of interest in Graduate Medical Education. The danger is that there will be too much of it and that all sorts of unripe schemes will be put into action here and there and everywhere until there will be so much of an overgrowth in graduate enterprises as there were undergraduate schools twenty years ago, many of which had to be driven out of existence before decent order was attained.

In planning for the future we must assemble some principles upon which a definite policy for Graduate Medical Education can be built. Here are a few:

No amount of undergraduate training can impart the

attainable maximum of medical ability, for the simple reason that the intervening medical practice is an indispensable element in the educational attainments of the physician.

The undergraduate curriculum, already overcrowded, will inevitably overflow into some coöperation to be established between Medical Colleges and graduate departments, preferably within the structure of Universities.

There is a menacing shortage of physicians in rural districts. In smaller communities the general practitioner has not the equipment nor the support of up to date Medical Science. The general practitioners are gradually disappearing and specialists are taking their place.

Specialization has brought on a mechanizing of medical practice. There is too much reliance upon mechanical devices and not enough upon clinical thinking. The individuality of the patient is often lost in the avalanche of specialistic techniques and laboratory devices. Our present practice of medicine is often *depersonalizing* the patient and making illness a bewildering factor of modern life.

The cost of illness is assuming such proportions that some relief must be found. This problem is very complex and requires thorough study before any fundamental viewpoints can be gained but it is clear that the main fault lies in lack of an efficient system of medical service.

The public must be educated to the aims and needs of an organized, efficient and economic health service—and to coöperate through the agencies of our commonwealth in the building up of mechanisms suited to modern medicine.

Through the coöperation of our communities and the medical profession, organized units of medical practice should be created and widely disseminated from the large centers to outlying rural districts. These units should be properly organized within themselves and between the

units and centralized toward the centers of learning, teaching and research. The large number of diagnostic laboratories and of smaller hospitals that have been built and equipped in recent years all over the United States are already a beginning in this direction. Inevitably they will become centers of higher grade practice of medicine than the isolated practitioner can supply, particularly when they become properly organized and manned and correlated to each other.

These coördinated mechanisms of medical practice should be made the channels through which the currents circulate that bring advances and new discoveries of medical sciences into the fields of practice and bring trained observations of practicing physicians back to the centers of clinical experimental research. They could easily be made the means of Graduate Medical Education.

Present facilities for Graduate Medical Education are inadequate and cumbersome. The procedures of Graduate Medical Education are not sufficiently graded. If the practitioner wants to keep abreast of modern progress, the burden falls upon him, a man who is overworked, underpaid and does not occupy in the valuation of our commonwealth a place that is commensurate with the importance of his responsibilities.

Graduate Medical Education has ceased to be a repair shop for poorly trained doctors and is becoming an essential part in a system which conceives Medical Education not merely as Institutions but as a system of correlated and graded steps in the training of physicians and in offering them organized and tempting opportunities for their continuous progress as long as they are in practice.

Future plans of medical practice must be based largely upon the general practitioner. He must be reinstated not as he was but as his modern type, mentally and technically equipped to remain continuously connected with his base of scientific supply. He will be backed up, as a field worker, by organized grouping of specialists, not in competition but in coöperation with his work.

No scheme that is rigid or attempts to be complete from the start will be practicable; it is all still in the making. There are undoubtedly several ways in which a beginning could be attempted. Here are some of the elements of which a practicable scheme would be composed:
It should:

Be intricately interwoven with the work of practitioners.

Bring the opportunities for progress close to him and in a continuous not a sporadic method.

Require of the general practitioner the least sacrifice of time, effort and money for his graduate studies.

Require of the specialist the most exacting tests of ability.

Counteract the dangers of unrelated specialization and put a check upon the amateur specialist.

Provide a continuity of graded steps for advancement of physicians.

Include all the ingenuity and devices of our mechanical age, not to replace but to facilitate high-class clinical cerebration, and establish proper relationship between specialist and general practitioner.

Function in an economic and efficient manner by gradually including all forms of health service and by so doing make rightful claim upon the financial support of the community and in return offer inexpensive but high-grade individual and collective health service.
Support and not replace the general practitioner, and reach rural communities.

Provide, even in small local units, trained psychologists who will be able to furnish the necessary information in cases of neurosis, psycho-neurosis, psychosis and such functional derangements as are caused by emotional conflicts, maladjustments, etc.

If properly conducted this department would obviate arguments that team-work will mechanize and depersonalize modern practice and that the dear old family doctor

did it so much better because he was taking a "personal interest."

This personal interest should most assuredly be cultivated, in fact *it is becoming a more essential element in the relation of physician and patient than it ever was but it should be based upon facts not fancy.* The old family doctor did intuitively what modern medicine must supply scientifically with the personal touch of the general practitioner for whom the unit is working.

Future medicine will be increasingly based upon conceptions of heredity, constitutional tendencies, systems of functions, unifying interpretations of an individual instead of unrelated symptoms. All this requires the assembling function of the high-grade diagnostic mind. Such minds can be developed only through some system of Graduate Medical Education, therefore it should not be an occasional, sporadic and time consuming effort but should be as intricately interwoven with actual medical practice as possible. It should become part of medical practice, supported not by educational philanthropy but by the communities and the medical profession on a basis of fair exchange of service. Graduate Medical Education should be made an asset of the commonwealth. Medical Education is not separable from medical practice. Medical practice in the future will not be separable from National Health Service. Health Service, including Medical Education, will become an essential public utility.

In the future mechanisms of actual medical practice should be placed the opportunities for Graduate Medical Education.

There is of course the danger that the more complicated the practice of medicine becomes the less direct will be the relation between patient and physician. The solution lies in the spirit in which Medicine will become organized. It will be inevitable that functions in the practice of Medicine which can be carried out efficiently on an impersonal basis should be carried out as swiftly and economically as

possible like laboratory, X-ray examinations, etc. In fact this is already happening in large centers except that it is not so efficient and economical as it could be. On the other hand this very impersonal form of service upon which the attending physician may call, gives him a better opportunity to devote himself to that part of his function which is more a ministration of the higher and finer relationships between patient and physician.

It depends upon the purpose for which organization proceeds whether it becomes mechanical or not.

The old, traditional spirit of the medical profession need not be less helpful, less kind and less unselfish for being efficiently organized.

III.

GRADUATE MEDICAL EDUCATION AND THE PRACTITIONER

JOHN E. JENNINGS

A little more than five years ago the Medical Society of the County of Kings and the Long Island College Hospital Medical School began what has proven an interesting experiment in Brooklyn. It consisted in giving a course of late afternoon lectures on subjects of direct clinical interest to the general practitioner and in offering in conjunction with several hospitals of the borough, short courses at a nominal fee in a number of more or less practical medical and surgical subjects. Its originators and promoters—Doctors Frank D. Jennings and Charles A. Gordon—have described and reported its inception and progress. It has been successful to a large degree and is still going on.

The lectures are always well attended—often crowded—and the extension courses have had a varied fate. Some have been popular, others ignored, for reasons often hard to discern. In general, however, it may be said that a registration equivalent to about one-fifth of the medical population have taken one or more of the courses offered.

This year the joint committee again, under the leadership of its original chairman, Doctor Gordon, is renewing its vigor and enthusiasm.

I do not propose to discuss or describe in detail the vicissitudes of this enterprise but to offer for your consideration a few ideas suggested by observation of and participation in it.

The experiment, I said, has been successful but it would be idle not to admit that its success has been singularly limited by four obstacles.

First—the conservatism of some of the largest and best equipped hospitals which led them to refuse to participate in the movement.

Second—the partial and inadequate appreciation on the part of the academic group of the need of the practitioner.

Third—the lack of method and experience in teaching of many of the willing volunteers.

Fourth—the inertia and comparative indifference of the large body of the profession.

It is possible that all of these difficulties may be surmounted but the process will have to be gradual and lacking large funds, very slow. What might be attempted if sufficient funds were interested in such a movement is not altogether futile speculation but one which cannot even begin without considering the cardinal obstructions as they now seem to exist. I shall ask your permission to consider these for I believe they are rather general—quite fundamental and will apply to any mission for education to the active practitioner. They are: The rather singular separation that now exists between what we may call the school and the practitioner. They do not seem to understand each other. The practitioner is not aware of the modern development of the medical school. He knows little about it and is not greatly impressed with what he knows. He considers the young graduate informed but untrained and looks almost entirely to other clinicians

when he finds himself able to brush up or look for special training. He is too often obliged to work a great deal alone and in inadequately equipped institutions, is largely active in actually caring for the sick and has stifled the natural desire of every physician to investigate and to teach.

The college apparently has its eye on the absolute *second:* The no less singular development of the hospital which in many instances is not so vigorous a mechanism of training as it used to be. Too often the stress of increased expense and other factors have upset the balance that once existed between the charity and the private beds and the young assistant must serve a long time before his experience is large or varied enough to equip him as he needs. In many institutions no out-patient department exists or if one is active its armamentarium and methods render it a menace rather than an assistance to the sick. The conception of the hospital as a center for preventive medicine and for social service is still in the germ. Fortunately there are fine exceptions. Not every hospital can or should be a teaching institution in the present sense of the word but a hospital could and should be an institution of learning. There are some and will be more.

I believe that comparatively small sums of money if wisely expended could by endowing and administering a few small hospitals, effect an example which would greatly influence this whole situation. For it is in the hospital, such as it is, that the lamp of learning, though it flickers, still burns and a man may live the rounded life of a physician. He may still be a clinician, an investigator and an instructor and he still knows that education is not the giving or receiving of knowledge but the inculcation of a discipline which can be accomplished by responsible apprenticeship alone.

So far as the individual practitioner is concerned some mechanism is needed to bring him and the university together. It would be good for them both and for the patient and again—any plan will demand money.

I do not think that any scheme of lectures or of extension courses, short or long, practical or scientific, will have any profound influence on the present situation. I wonder if a plan could be devised. Would it be worth considering to accept the successful practitioner as a man whose adaptation to his environment had elements of virtue in it and to seek to isolate the essential oil? Could the old idea of Preceptorship be modernized at all?

Suppose that Doctor Doe, who has a good practice in Jamaica—which is sixteen minutes from the Pennsylvania station by the way—were to receive some day a letter asking for an appointment with a representative of the Gold Dust Foundation. Would he bite? He would. Suppose that able representative told him that he was one of 51 doctors who had been selected to take part in a movement for university extension in medicine, that his consent was sought and his advice requested. That a meeting of the Extension Faculty would be held at the university on Saturday morning, that his attendance would be appreciated, a director's fee waiting and the roll called. Would he be there? He would.

Supposing that at this meeting the relation of graduate and undergraduate instruction was recognized and that Doctor Doe was asked to associate with him two undergraduates and one graduate and to arrange his clinical records so as to conform with the standards of the university. His salary as a member of the faculty beginning on July 1st and his personal attendance at the summer session for extension teachers being expected. Would he yield? Would you?

One who assumes the activities of a critic must in some degrees accept the responsibilities of a minor prophet and I will predict that he would. That he and his fellows would do as much or more for the university as it would do for them and that the association would do much to mitigate the disorders from which medical education and medicine with it, are now suffering until they too shall have run their course.

Three evils affect medicine and medical practice among us today:

Commercialism—which has many forms and manifestations, chief of which, however, is the improper extension of veterinary medicine. Veterinary medicine is practice which is performed on the body of another without his solicitation or necessary consent. It is honorably performed upon animals in captivity. Wild animals do not enjoy it and free men resent it. In several subtile forms it is invading human practice.

Partialism—or Pseudo Specialism—in which the physician working alone or in group assumes only a partial consideration of the patient's problem without proper central and coördination by one familiar with the whole.

Standardization—which may be made a willing and useful guide and servant or may become an inexorable and tyrannical master if it be allowed to go beyond control.

It is charged that the digestive and correlative parts of knowledge are in most American colleges conspicuous by their absence. Would not some such plan as the one I have outlined promote and develop the restoration of these functions in the medical schools?

Would it not make possible a real integration of the fractional activities of us all?

ABSTRACTS OF PAPERS DELIVERED AT SECTION MEETINGS

Section of Surgery, April 6, 1928

A STUDY OF GANGLION [1]

With Especial Reference to Treatment

Louis Carp and Arthur Purdy Stout

A ganglion is a cystic swelling usually occurring in close proximity to joints and tendon sheaths and it contains a thick mucinous fluid. The regions of the wrist, ankle and knee and the volar regions of the fingers and hand are most frequently affected. [2]

Genesis. The following are brief summaries of the hypotheses that have been given.

1. "A knot of tissue." This is, perhaps, the oldest conception of the pathology and the Greek word *gagglion* from which the word ganglion comes, expresses the thought.

2. Rupture of tendon sheath. This was advanced by Eller in 1746.

3. Retention cysts. Gosselin, in 1852, thought that they were retention cysts coming from a combination of the subsynovial follicles and crypts.

4. Neoplasms. In 1847 Henle regarded them as "mucinous tumors." Floderus in 1915 thought that ganglia were true neoplasms arising from a specialized connective tissue.

5. Herniation of tendon sheath or capsule of joint. This is to-day one of the most popular conceptions and was discussed by Volkmann and also Billroth in 1882.

[1] From the Department of Surgery and the Laboratory of Surgical Pathology, The Presbyterian Hospital, Columbia University.

[2] We have not included cysts of the semilunar cartilages in this study.

6. Origin from bursae. Vogt in 1881 offered this opinion.

7. Degeneration cysts. Ledderhose in 1893 and others advanced the idea that they were cystic degenerations in the connective tissue outside a joint.

Pathology. In no instance have we been convinced that ganglia resulted from direct communication with joints or sheath spaces. On several occasions the joint has been exposed but only for one of two reasons, namely, operative trauma or an almost complete disappearance of the capsule; and further, in these instances, the cyst wall has been complete and its contents had no connection with the fluid in the joint. The growths are attached to capsules of joints, tendon sheaths or both.

There are usually more than one cyst cavity and they are often multilocular. In the cysts and in the surrounding degenerated connective tissue is a material which simple chemical tests demonstrate behaves like mucin. The mucin seems to come from degeneration of the collagen fibres which are found fibrillated or absent in the affected areas. Cells are also found loaded with mucin-containing vacuoles. The cause of the degeneration remains obscure. It does not seem to depend upon inadequate blood supply because functioning capillaries are often found in considerable numbers in the areas of degeneration. Small bundles of nerves are often found passing through areas of degeneration. Although some multiplication of cells occurs we do not believe these lesions are neoplasms and we have never seen nor read of malignant neoplasms coming from them. Spontaneous infection or rupture of ganglions are very rare occurrences.

We have analyzed 255 cases. They occur most frequently in the second, third and fourth decades and about 75 per cent. are in females. Occupation and trauma are not impartant factors. About 70 per cent. of all the cases occur on the dorsum of the wrist and the remainder on the volar surface of the wrist, volar surface of finger, dorsum of

foot, popliteal and malleolar regions. About half the cases have pain. Most of the dorsal carpal ganglia are attached to the capsule of the joint and extensor tendon sheaths.

Etiology. We are not convinced that trauma and constitutional tendency are important.

The preponderance of ganglia in the second, third and fourth decades in females of slight build is generally a striking observation. The progressive diminution of the number of cases after the fourth decade and their comparative rarity in old age is also striking.

Anatomy. Those ganglia arising from the capsules of joints are intimately adherent to them, usually by a broad base, so that they can be excised only by sharp dissection. We have not been able to note a definite pedicle. Laterally on the dorsal surface of the wrist they are bounded by the extensor longus pollicis and mesially by the extensor communis digitorum and extensor indicis. The ganglia on the volar aspect of the wrist lie, as a rule, laterally between the tendons of the flexor carpi radialis and supinator longus. Here they are in close relation to the radial artery and in one of our cases this artery coursed directly through the capsule of the ganglion. On the volar surfaces of the fingers, they are intimately attached to the flexor tendon sheaths, usually at their bases and in some instances they are also adherent to the skin.

Symptoms and Signs. The symptoms may be grouped under deformity, function and pain. About half the patients complain of pain—this may be present only on use of the adjacent joints or may also radiate from the region of the swelling. Encroachment of the cyst on tendons frequently produces a sense of weakness in the fingers or toes to which the tendons go. The swelling may be very large or very small. On the dorsal aspect of the wrist and in the popliteal region they are apt to be largest and in our series there were two 6 cm. in diameter respectively. The smallest ganglia occur on the flexor tendon sheaths of the hand where they attain the size of a millet seed or split pea. Most ganglia are very tense, a few fluctuant, and

some vary in consistency. It is safe to predict attachment of a ganglion to the capsule of a joint if the tenderness is marked. Close relationship with a nerve or blood vessel may also cause marked tenderness. Ganglia, however, which are attached only to flexor tendon sheaths of the fingers are generally quite tender.

Treatment and Late Results

Carp and Stout—Total Cases 255

Late Results

Method of Treatment	Total No. Cases	No. Cases Followed	Longest Time (mos.)	Shortest Time (mos.)	Average Time (mos.)	Reappearance	Disappearance	Still Present
Operative	109 (42.75%)	35	168	3	28	11 (31%)	24 (69%)	
None	81 (31.77%)	12	60	3	36.5		7 (58%)	5 (42%)
Breaking	32 (12.55%)	9	48	4	12	2 (22%)	7 (78%)	
Aspiration Injection Chemical Irritant Pressure	16 (6.75%)	8	72	1	55.5	2 (25%)	6 (75%)	
Strapping & Pressure	7 (2.74%)	3	48	1	20			3 (100%)
Baking & Massage	5 (7.96%)	1	10					1 (100%)
Aspiration & Pressure	3 (1.18%)	2	15	6	10.5	2 (100%)		
X-ray	2 (.78%)	—	—	—				
	Total	70						

Summary

1. We believe that ganglia are cysts resulting from mucinous degeneration of connective tissue. They occur generally in or are attached to capsules of joints or tendon sheaths. They do not communicate primarily with joints or sheath spaces.

2. The degeneration proceeds with fibrillation of the collagen fibres and accumulation of mucin both within the cells and in the intercellular spaces. This results finally in the disappearance of cells and fibres in a number of adjacent areas. These embryonic cysts coalesce leading to the formation of larger cavities. The cause of this degeneration remains obscure but it is probably not due to lack of vascular supply. Although there is evidence of cell proliferation we do not think that ganglia are neoplasms.

3. They occur most frequently about the wrist joint, volar surfaces of fingers, dorsum of foot and popliteal region. Ganglia are most frequently found in females of slight build in the second, third and fourth decades. We are not convinced that trauma plays a major role in their production.

4. The chief symptoms and signs are swelling, pain, interference with function and tenderness.

5. A differential diagnosis must be made from tuberculosis of the joint or tendon sheath, lipoma, myxoma, fibroma, osteoma, sarcoma, bursitis and aneurism.

6. Late results after various therapeutic measures have convinced us of the advisability of non-operative treatment. So many ganglia disappear spontaneously and after breaking and pressure, aspiration and pressure or aspiration with injection of a chemical irritant and pressure that operative therapy should be recommended only where non-operative treatment has failed and where there are *persistent* troublesome symptoms, signs or deformity. Careful complete excision of ganglia under strict asepsis and with a bloodless field will probably not be followed by reappearance.

Section of Neurology and Psychiatry, April 10, 1928

CASE HISTORY AND POST MORTEM FINDINGS OF AN UNUSUAL TUMOR OF THE BRAIN

CHARLES A. MCKENDREE and JAMES R. LISA

The following case is presented not only because of the unusual distribution of the lesions responsible for the clinical picture, but also because of the unusual nature of the new growth responsible for the clinical signs and symptoms.

The patient, of Italian parentage; aged eighteen, single; occupation, clerical; was admitted to the City Hospital on October 19, 1927.

The complaint consisted of headache, paralysis of the right side of the face, deafness of the right ear, paralysis of the ocular muscles on the right, numbness of the right side of the face, and pain in the left lower extremity.

His first symptom was noted in July 1925, and consisted of tinnitus in the right ear. The patient was well until the onset of his present symptoms. In July 1925, he noted buzzing in his right ear with gradual diminution of hearing on that side. In January 1926, his right eyelid began to droop and patient saw double. The ocular disturbance became progressively worse until date of admission, at which time he could not move the right eyeball and the right upper lid. In May 1926, he first noted numbness of the right side of his face. In July he experienced severe headache on the right side, accompanied by the gradual onset of pain in the right side of the face. He was admitted to Mount Sinai Hospital in August 1926, where a craniotomy was done and tissue was removed for histological examination. The headache was relieved by this procedure for a time, but had recently become severe. Some time after the operation, the patient noted that the left side of his face was pulled to the left. Since August 1927, patient has suffered very severe pain in the entire

left lower extremity. The past history was irrelevant except for the fact that in April 1927, the patient suffered from vertigo, which was so marked that he was unable to walk; objects seemed to revolve but the direction could not be ascertained. The personal and family history are irrelevant.

Physical Examination

The patient is very much emaciated and presents marked flattening of the right side of the face, and complete ptosis of the right upper eyelid. The gait is normal in all phases except for slight unsteadiness due to weakness. The equilibratory and non-equilibratory tests are all normally performed. Skilled acts are normally done. There is some dysarthria due to facial paralysis, and some dysphonia. There are no abnormal involuntary movements. The deep and superficial reflexes are normal and equal in upper and lower extremities. Muscle strength is fair in all groups. Muscle status is normal except for marked hypotonicity in the lower extremity. Generalized wasting and atrophy of the right side of the face. There are no abnormal associated movements. Signs of meningeal irritation are absent.

The general sensory examination for touch acuity, touch discrimination, pain, temperature, vibration, muscle-tendon sensibility, is normal except for the right side of the face, noted below. Stereognosis was normal.

Cranial Nerves—There were no olfactory disturbances. The sense of smell could not be accurately determined because of intranasal pathology. The fields of vision were normal to rough tests, there was a pallor of both discs, the left being more pale than the right. In the opinion of the consulting ophthalmologist, this pallor was post-neuritic atrophy. The pupils were unequal in size, the right 5 mm., the left 2.5 mm. The right did not react to light, the left reacted normally. There was slight exophthalmos on the right. The left eye moved normally in all directions. The right eye had no movement in any direction. There was

no true nystagmus, but there were a few nystagmoid jerks on the left in extreme positions. The left palpebral fissure was normal, the right was entirely closed because of complete ptosis. There was haziness of the cornea on the right. There was marked flattening of the right temporal fossa and the right side of the face. There was marked weakness of the masseter temporalis and pterygoid muscles on the right. There was numbness on the right side of the face with complete analgesia and anaesthesia of the right trigeminal distribution to all forms of stimuli. There was complete right facial paralysis with loss of taste on the anterior two-thirds of the tongue. There was deafness on the right with no vestibular reactions to stimulation on that side. The palate rose very slightly on each side upon phonation. The quality of the voice was somewhat nasal. Examination of the vocal cords showed no actual paralysis, but the tensor action was weak on each side. The spinal accessory nerve was normal. The tongue protruded in the mid-line and to each side normally and presented no atrophy.

The systemic examination, including the tegumentary, grandular and cardiovascular status was normal. Examination of the lungs revealed no abnormality. X-ray of the chest presented no essential pathology. Abdominal examination was negative.

Examination of the skeletal system revealed an osteoplastic flap deformity on the right side of the head. X-ray of the skull showed signs of increased intracranial pressure, the entire vault was very thin; sella turcica showed no evidence of enlargement or destruction. Examination of the vertebral column and X-ray of the four extremities were negative except for periosteal thickening in the upper portion of the left femur.

Mental status, except for irritability and under-productivity, was normal.

The blood and spinal fluid serology was entirely negative. Blood count showed a moderate secondary anemia.

Summary of Findings

1. Pallor of both optic discs, left greater than right.
2. Ophthalmoplegia totalis on the right.
3. Total paralysis of the right trigeminus nerve.
4. Complete peripheral paralysis of the right facial nerve.
5. Nerve deafness and loss of vestibular reactions on the right.
6. Weakness of the palatal muscles with sluggishness of vocal cord action.

Our clinical interpretation of the case was that we were dealing with a neoplasm at the base of the skull on the right side, involving by multiple processes the second, third, fourth, fifth, sixth, seventh, eighth, ninth and tenth nerves. The nature of the tumor was unknown, but we had received a report of the histological study of the material removed at operation which indicated the presence of a sympathoblastoma. The patient died December 10, 1927, of broncho-pneumonia.

The autopsy and histological studies are reported by Doctor Lisa.

SOME UNUSUAL TUMORS OF THE THIRD VENTRICLE

Percival Bailey

At the beginning I would like to say that in Boston brain tumors are not always well diagnosed, nor well examined pathologically. They are often well operated on by Dr. Harvey Cushing. And a few of these cases I want to present to you this evening. We shall see that they have not always been well diagnosed, and you can make up your own mind as to whether they have been properly examined microscopically.

You will also see that they have been well operated upon. I fear the remarks I have to make will not prove excessively interesting to you but my interest in this subject was aroused by the entrance of a young lady of 23 years into the clinic of Dr. Harvey Cushing, complaining that she fell asleep in the most inopportune places and at the most inappropriate moments. She was a school teacher and had charge of the sixth grade in the public schools, and she was accustomed to fall asleep suddenly during the class, to the great amusement of the students, of course, so that she was obliged to resign her position. This, of course, affected her seriously, as she was obliged to earn her living.

It seems that some six years before her entry into the hospital she had had an attack of febrile jaundice, which was thought to be due to malaria. The jaundice disappeared and she had developed these attacks of sleepiness. These attacks were accompanied by weakness of the knees and were usually brought on by any exertion or excitement, and were followed by periods of depression in which she wept and felt out of sorts. These had finally begun to be accompanied by headaches and it was for that reason the doctor in charge of the case sent her into the hospital. We could find none of the general symptoms of brain tumor.

Her spinal fluid tension was normal. She was adipose, having gained about forty pounds in weight. She had a delicate skin. Her menses were irregular. She had a slight polyuria. Her basal metabolism was not done.

I had never seen so clear-cut a case of what is described in the literature as narcolepsy, as was presented by this patient, and Dr. John Fulton, who was working in the clinic was also interested, so the two of us put our heads together and decided we would try to find out if we could not learn something about this disease. It was described by Gelinau, a Frenchman, some years ago, and recently numerous papers have been appearing on the subject. These patients are exceedingly interesting, for the simple reason

that they drop off to sleep at the most inopportune moments. Adie in his paper decides there must be some lesion in the basal region of the brain which is associated with this disease, or syndrome; and the few slight general constitutional symptoms of our patient caused us to look up tumors which had occurred in the clinic to see if we could not find something similar.

The first patient which I want to present this evening had attacks which resembled very closely these of this young lady, in the early part of her disease.

She was 28 years old when she entered the clinic. She was almost constantly somnolent. She could be aroused to take her meals; otherwise fell asleep and slept practically continuously. She gave the story of having begun six years previously, two years after the birth of her first infant, to fall asleep. She was accustomed to play pinochle with her husband and usually won. She found she was losing because she fell asleep in the middle of the game. And shortly afterwards she began to fall asleep when visitors came. Shortly after these attacks she began to have polyuria.

She was not conscious of any great thirst, although she remembered she drank excessively at that time. The symptoms continued and at the height of the polyuria she was drinking five or six gallons of water per day and putting out the same amount of urine.

About three years after the polyuria and the sleeping attacks began headaches occurred but were never a very prominent symptom. From the very onset there was remarkable fluctuation in her weight. She weighed about 138 pounds at the time the illness began. Six months afterward she weighed 120. Then gradually she began to gain so she was over 200 pounds when she entered the clinic.

The menses had stopped completely and had not returned, although she had severe pain radiating over the abdomen and recurring at regular monthly intervals.

She was found to be a very adipose woman, as you can see, very sleepy, very stupid, really more than sleepy at that time, somnolent, and half comatose, very adipose, with the pubic and axillary hair gone.

She could hardly be aroused to have her picture taken. She had a primary optic atrophy in both eyes with a bitemporal hemianopsia, by rough test. And she had no polyuria at the time she was in the hospital.

She states, and her husband swears that when she was so much annoyed by the polyuria they went to California and there a doctor put her on Vita Nuova treatment. This consists in going on a certain dietary regime in which nuts figure largely, and meat is forbidden. Two weeks after beginning this diet the polyuria disappeared, never to return. Aside from the primary atrophy in both eyes, little was found. Her sella turcica was normal, as you can see here, so that only a subtemporal decompression was done, being unable to locate the tumor. That was some years ago. You might suspect its localization to-day. Its nature I think no one would be able to tell even to-day. The patient died of hyperthermia. A necropsy of the brain alone was permitted. There was found a small firm vascular tumor in the hypothalamus. The stalk of the pituitary body was normal. The pituitary body was normal in size. You notice that there is no internal hydrocephalus.

You see the stalk of the hypophysis, and the optic chiasm, in which practically all of the nerve fibers have disappeared. The whole tuber cinereum and hypothalamic region is involved by the tumor.

A reconstruction made from medium sections shows the extent of the tumor. Not all of the tissue in this region was destroyed by the tumor. It had infiltrated along the vessels, but the gross extent of the tumor was about so, leaving the hypophysis entirely free. Microscopically the tumor proved to be made up of small round cells; mitotic figures were fairly numerous. Here is one I think you can recognize. Some of the cells were multi-nucleated;

some showed what might be interpreted as amitotic division. These cells were enclosed in a reticulum of the connective tissue, which had a tendency to whirl around the blood vessels as is often found in sarcoma.

You see here the tumor in the subarachnoid space.

This shows the anterior part of the hypophysis with normal distribution of the chromophile cells. Here is the posterior lobe perfectly normal. A little cyst, as is usually found in the pars intermedia.

This was to me a very interesting tumor. It was microscopically, I think, a sarcoma. That is to say, a malignant round cell tumor of mesodermal origin. Whether it was primary in the brain or not I am not prepared to say, because a complete necropsy was not done. There were no clinical signs of tumor anywhere else in the body. At any rate, no symptoms of which the patient complained which might be so interpreted.

The case was an interesting one from the onset. One might have taken her as a typical case of narcolepsy had it not been for the intense polyuria. Furthermore her menses had stopped very early. The intensity of the polyuria and the cessation of the menses might have made one think it was not an essential narcolepsy, but the attacks of sleepiness were perhaps typical of those which occur in narcoleptic patients. I would like to call your attention to the presence of a complete adipose genital syndrome without involvement of the hypophysis. Perhaps the secretion of the hypophysis was shut off, but if that were so there was no evidence to be found in the histological examination of the hypophysis itself. The patient had a complete syndrome with diabetes insipidus and narcolepsy from a small tumor which had not given internal hydrocephalus, and probably not intracranial tension.

In the absence of the general symptoms of tumors the patient had narcoleptic attacks early. The early syndromes in cases of brain tumor are those of importance from a localizing standpoint. It seems that this tumor confirms

the idea expressed by Adie, that perhaps a lesion in the third ventricle or the diencephalic portion of the brain is responsible for these narcolepsy attacks.

I will show you another case which is interesting from the pathological standpoint. This patient was a man of 38 who had always been well until suddenly one day in 1924 he fell ill with severe headache and vertigo. In 1926 he had a similar attack in which he slept continuously for a day and a half. Other attacks of severe headache occurred, in which he was very uncomfortable and vomited, but he never had another sleepy attack.

Little was found on examination except choked discs and vague cerebellar symptoms. A ventriculogram was done which showed that the third ventricle did not fill, but very little attention was paid to that because ventriculograms sometimes do not fill the third ventricle. He had a suboccipital exploration done. I don't know how it is in New York; that is probably the most frequent error made in the neurosurgical clinic, to operate on the cerebellum for a tumor in the region of the third ventricle. The operation at any rate was well done. He recovered rapidly and was discharged from the hospital apparently relieved. Some thickening of the arachnoid was found around the cerebellum.

He went home and a short time afterwards his physician called up and said he had an attack. It was suggested that they do a lumbar puncture, which they did, and he died. As you see, he died from a pontine hemorrhage. We were fortunate enough to secure an examination of the brain, and were greatly surprised to see this small round tumor, about the consistency of a rubber ball, sitting in the third ventricle, which is scarcely dilated, attached anteriorly, free behind. There was a certain degree of internal hydrocephalus. We had never seen a tumor of that kind, and had not the slightest idea what it might be, until we began to delve into the literature and found some twelve or fifteen of them (which usually happens if you search

diligently enough) described under all kinds of names and in odd places.

Inside of the tumor is a mass of colloid material without structure, and around it is a cuboidal epithelium with some tufts of choroid plexus on the lower surface, as you see.

The other descriptions of similar cases really show practically the same thing, a cyst filled with this colloid material which after fixation becomes about the consistency of a rubber ball.

These patients have sudden severe bouts of headache. A woman will be going about doing her marketing when she will have a severe headache, lie unconscious for three hours and then go about her business only to have the same thing recur. Finally in one of these headaches she will die. Most of these tumors have been recorded in the Scandinavian literature. Sjövall, a pathologist in Sweden, supposed that this tumor might be a remnant of the paraphysis. You know that in the fishes there is a large organ growing from the anterior extremity of the roof of the third ventricle and extending posteriorly. In the human embryo it is rudimentary and disappears very early. The point of attachment of these tumors makes the hypothesis of Sjövall seem to be quite reasonable.

The next patient also had a tumor confined to the third ventricle itself. He was a young man who while doing his college work began to be taken with severe headaches. He had the same attacks from which he would recover and go about his business. He was very drowsy and thought to have epidemic encephalitis. He soon showed just emotional indifference, sometimes like a patient with dementia praecox. He had had a left osteoplastic exploration in New York. We did a suboccipital exploration. Finally the tumor was located in the third ventricle and an attempt was made to remove it by going through the right hemisphere. There was a huge internal hydrocephalus and the tumor, which lay in the third ventricle, was seen but could not be removed. It was attached to the right column of the fornix.

This illustration shows the tumor lying in place. It fills the entire third ventricle with the exception of the infundibulum and was not attached anywhere except to the right column of the fornix. I interpret it as a glioma of the type known as an astroblastoma.

The last patient I will speak of was a boy 15 years or so, an Italian boy, who came first to the Massachusetts General Hospital complaining of constipation. The doctor was busy, and gave him some pills and suggested he come back the next day and bring a twenty-four hour specimen of urine. He came back with three gallons. He entered the Boston City Hospital and there they did a lumbar puncture which was practically normal. They attempted to suppress his polyuria with pituitrin but he insisted on being discharged and came over to the Brigham Hospital.

This is the patient as he was when he entered. You see a rather undersized but otherwise fairly normal Italian boy. Aside from his slight emaciation and polyuria, nothing could be found. Since his polyuria was not stopped by pituitrin, some thought he had a psychoneurosis.

We had seen a similar patient who had proved to have a tumor in the third centricle and proposed to do a ventriculogram, but he made such a fuss we discharged him and he then went to the Massachusetts Hospital. Here he developed swelling in the parotid glands and they thought he had mumps. Then they decided he had an angioneurotic edema. They found he had an abnormal spinal fluid but were unable to arrive at a diagnosis. He had at this time mental symptoms which interested the psychiatric service and he was transferred to the Department of Abnormal Psychology of the Harvard University. They examined him and decided his water drinking was a compulsory neurosis. This conclusion was not so extraordinary when you hear the story. The boy was one of a large family of children. His father was a barber, a Neapolitan, a very dominating person who felt he should be Lord of all he surveyed, as far as his family went. His mother was very submissive, but an interminable talker. The father

thought the mother was the most aggravating person of his acquaintance. When he could stand her chatter no longer he used to beat her. The boy took his mother's part and used to battle with his father. He used to help his mother with the household work. One of his earliest recollections is going to the well to bring water for his mother and while there he was beaten by another gang. He remembers going afterward to the well and drinking copiously of the water. His mother taught him drinking water was the best way to get rid of fear. When he was thoroughly beaten by this gang, he began to drink copiously of water and continued. That was the onset of his polyuria. It continued ever since with fluctuations up and down. After he had been in the Brigham Hospital he became quite well when his father was sent to Deer Island for beating his wife. Later a policeman gave him a beating, after which his polyuria started off again, but afterward improved and then began again with an acute exacerbation when his father got out of Deer Island.

His polydipsia was therefore thought to be a compulsion having something to do with his fears. He was sent to the country to get out of his family life, and there he continued to do very well for a time, but later he began to fall asleep in the course of the day and they could not rouse him. And he complained he could not see well. The mother brought him into the hospital and we thought he was in extremis. He was sluggish; his pulse was slow. When Dr. Cushing arrived he was sitting up in bed talking and laughing with the nurse. At five o'clock he was found dead in bed.

At necropsy there was found quite a large tumor lying in the region of the third ventricle. The whole third ventricle is filled with the tumor.

The pituitary body is not involved.

It shows that the tumor had disseminated itself all over the lateral walls of the ventricle.

Necropsy proved it to be a pinealoma. The structure is quite unmistakable with these islands of large round cells, and the islands of lymphoid cells scattered amongst them. The tumor, therefore, was a pinealoma which had probably not produced localizing symptoms because it extended only into the third ventricle. His polyuria was due to involvement of the tuberian region, as happens frequently with pinealomas. It may be that when he had his fight with the rival gang a part of this tumor was broken off and lodged in the infundibulum giving rise to polyuria.

I thought these cases presented something of unusual interest. They were strange to me. They are also interesting, I think, from the light which they throw on the ordinary psychological phenomena which at least are able to be disturbed by some lesion which lies primarily in the region of the third ventricle.

MADAME DEJERINE-KLUMPKE
1859-1927

SMITH ELY JELLIFFE

French neurology and neurology the world over mourns the loss of a personality rich in character and in scientific achievement. Madame Dejerine, whose death occurred in November 1927, was, in the words of Professor Roussy, "one of the most beautiful and greatest figures in contemporary neurology." Her memory is enshrined among those who shared the kindness and the greatness of this personality and in the nature of her work. For the latter was performed with such thoroughness, such demand for accuracy, and opened up so much hitherto undiscovered knowledge of neurology that it must continue to bear fruit.

Mademoiselle Klumpke was born in San Francisco in 1859, one of a family of sisters who distinguished themselves in fields of art and science. She was eleven years of age when the family went to Europe, to Germany, then to Switzerland, where Mademoiselle Klumpke received her

academic education. She proceeded to Paris for the opportunity to study medicine, an opportunity which was hard-won. Vulpian, later her teacher, and the one who exerted a life-long influence upon her scientific ideals and attainments, was opposed to the entrance of woman into medicine. His objections were nevertheless overruled and Mademoiselle Klumpke was not only allowed, in company with a few more mature women, to avail herself of the medical course—with great precautions, to be sure, on the part of Vulpian—but step by step she won the place of first woman externe and then interne in the hospitals of Paris.

She came early into contact with Dejerine, both of them sharing the inspiration and training of Vulpian. After their marriage their work continued in closest association until his death in 1917. Madame Dejerine as a woman was distinguished by a modest self-reserve combined with a warmth and kindliness of nature which made her beloved as wife and mother, as hostess and ever-ready guide and teacher to the students. At the time of her death she was engaged with Madame Sorrel-Dejerine, her daughter, and Dr. Sorrel, her son-in-law, in building up the foundation which she had established in memory of Dejerine for the Faculty of Medicine. This has taken the form of a laboratory, museum and library for the advancement of neurological study, and is now located in the building of the pathological department of the University, Gustav Roussy occupying this chair.

To set forth any adequate review of Madame Dejerine's work in neurology would be to write the entire history of modern French neurology. It began with the Dejerines in their insistence upon continual serial sectioning of whole brain material. This fundamental attitude gave rise to the partnership work on the *Anatomy of the Nervous System*, 1894, which stands as a monument to Madame Dejerine's attitude toward anatomical science in the neurological field. In this work may be found that organizing

genius of her mind; its capacity for detail and its ingenuity in presentation. The anatomy of the nervous system at this time was in a chaotic state. The newer researches of Golgi, Cajal, Forel, and His and the entire reformulations which followed upon the establishment of the neuron theory necessitated an entirely new approach and a more rigid elaboration of neural topography. This work accomplished, this and more and stands as the summit of many years of patient research. For it was as early as 1883 while still an externe in Vulpian's service that Mlle. Klumpke published two remarkable studies which have become classic, upon the relation of radicular palsies of the brachial plexus and ocular disturbances and now extensively quoted as the Klumpke type of radicular palsy of the brachial plexus.

Her thesis continued her studies of peripheral nerves which had always interested her and dealt with polyneuritis in general and the lead palsies and atrophies in particular. Then married to Dejerine, a number of studies from the pathological laboratory at the Bicètre and then at the Salpétrière followed. Among the most outstanding of these were those of secondary degenerations following lesions of the cortex; the course and connections of the Ruban de Reil; the red nucleus, aberrant fibers of the pyramidal tract, the course of the cuneus fibers in the corpus callosum.

These found a systematic presentation in the well-known anatomy of 1894, such a union of work of husband and wife as has rarely been seen. An immense number of studies followed this monumental treatise. It seemed but the beginning of a series of fertile researches with such students as André Thomas, Jumentié, Roussy, Mouzon, Foix, Landau, Long, Nageotte, Tournay, Lhermitte, Tinel, Barré, Cellier and others.

When the war came she entered the field and was active among the wounded at the Salpétrière and later at the Invalides. Now the care of cerebral injuries was minutely studied and the indications for surgical treatment of spinal

cord injuries. The monumental work of Tinel upon peripheral nerve injuries was a continuation of her work upon the evolution of these situations.

Even the death of Prof. Dejerine in 1917 did not interrupt her work. With her daughter and Cellier at the Invalides there came forth the remarkable study of paraosteopathies of spinal paraplegias and with Regnard she described the sympathetic synesthesia of paraplegics and ocular disturbances due to lower dorsal cord lesions.

In 1920 came the establishment of the "Fondation Dejerine" which with the coöperation of Mlle. Dejerine assured to the Paris Faculty of Medicine, a laboratory, museum and library consecrated to the furtherance of neurological science. In the words of Prof. Roussy in his eulogy to Mme. Dejerine, this Foundation was created as a memory to the forty years of labor consecrated by Jules Dejerine to scientific research in neurology and to the recognition and welcome accorded in France in a period when feminism was so decried, to the six children of John Gerard Klumpke and of Dorothea Matilda Tolle, his wife of San Francisco, who found important facilities for advanced educational work in France in the Faculty of Medicine, of Sciences, the Beaux Arts and the National Conservatory of Music.

I cannot forgoe the mention of one incident in her career, also mentioned by Roussy in his *eloge*. I had the rare privilege of visiting the Dejerines in their summer home near Berne. The swiftly flowing river Aar was at their door. A young woman not able to swim had ventured in and was about to drown when Dejerine, a strong powerful man, endeavored to save her. He, too, was threatened with drowning and Mme. Dejerine threw herself into the water, all clothed and rescued both of them. Anyone who saw, as I saw many years later, the seething foaming stream could realize the courage and capacity of this remarkable woman and could well understand the stamina that has given so much to neurology not only in France but to the world.

With us in this country one can point with pride to many whose work has been of outstanding value from their contacts with the Dejerine example. Spiller of Philadelphia is among the earliest of the Dejerine pupils; Adolf Meyer of Baltimore another.

Section of Pediatrics, April 12, 1928

ACTINOMYCOSIS OF THE LUNG

Report of a Case Treated by Bronchoscopy and Injections of Lipiodol

F. Elmer Johnson and John Devereux Kernan

In the summer of 1925 this patient lived on a farm in Iowa and developed a habit of chewing grass.

In October 1925, at the age of three years he began to cough. This continued all winter but was not thought serious enough to seek medical advice. In June 1926, however, he began to lose weight and have a slight temperature. He was then brought for examination. Over the base of the right lung, marked dullness with amphoric breathing was found. A diagnosis of lung abscess was suggested, although no history of the inhalation of a foreign body was obtainable. There was clubbing of fingers and toes. A Roentgen-ray examination showed a shadow in the right lower lobe and was interpreted as consolidation. Intracutaneous tests and sputum examinations were negative for tuberculosis.

On June 22nd, 1926, Dr. John D. Kernan passed a bronchoscope. Just below the opening of the middle lobe bronchus, there was an edematous swelling of the mucous membrane. Beyond this point, what seemed like a foreign body was seen. This was coughed up and immediately a large amount of foul smelling pus was released and aspirated. The object proved to be a piece of fibrin. The breath became very foul after the bronchoscopy.

For three weeks following the operation, the lung shadow became less dense and the general condition improved. This improvement, however, did not continue and another bronchoscopy was done July 30th. Although bronchoscopies were repeated eight times during September, October and November, the process extended into the upper and middle lobes of the right lung and the child's general condition grew worse. At this time the organism of actinomycosis was isolated.

From December to March, seven more bronchoscopies were done and at each, 5 c.c. lipiodol were injected into the diseased lung. Large doses of potassium iodide, sixty grains a day and deep X-ray therapy were also given. During the entire illness postural drainage was encouraged. At each bronchoscopy, small amounts of sanguinous purulent material were aspirated. The amount drained or aspirated was never sufficient to empty the cavities. The material in the cavities as found at necropsy was too tenacious and thick to be aspirated through a bronchoscope.

From the time the lipiodol was started, until the child was taken sick with pneumonia in March 1927, there was a steady improvement in weight and general condition. He died March 8th, 1927, of the pneumonia.

Anatomical Diagnosis: Pulmonary Cavitation, Chronic Pleurisy, Pulmonary Fibrosis, Acute Broncho-Pneumonia with Fibrinous Pleurisy, Fatty Liver, Hyperplasia of Bronchial, Mesenteric and Intestinal Lymph Nodes.

Bacteriology

In spreads from thick mucoid material obtained by Dr. Kernan on bronchoscopic examination, short branching threads with clubbed ends were found, which stained with methylene blue and retained the Gram's stain.

From the necropsy material a growth of actinomycoses was obtained in broth cultures, but animal inoculations were negative.

This case is reported because of the rarity of the condition and because we believe the injection of lipiodol by bronchoscopy offers a new method of treatment. This should be supplemented by large doses of potassium iodide by mouth.

This case proves that many bronchoscopies may be done on a three year old child without injury to larynx, trachea or bronchus.

Actinomycosis should be suspected in all cases of lung abscesses in children who have been playing on the ground in the country.

There may be great difficulty in growing the organism of actinomycosis as illustrated in this case.

BODY MECHANICS AS A FUNDAMENTAL FACTOR IN PEDIATRIC PROBLEMS

Royal Storrs Haynes

The subject of body mechanics underlies the handling of almost all the problems related to the health and growth and happiness of children. Faulty action of the various elements of our body creates an obstacle which may determine defeat of whatever we may attempt to accomplish.

The word mechanics is preferable to "posture" because the latter is too static in idea. Not only the position of the body in relation to the vertical must be considered but the meaning of every detail of outline in terms of the underlying relationship of parts and their interaction.

A complete physical examination must be made including the functioning of all joints and muscles.

The principal mechanisms to be considered are the lumbar lordosis; the thoracic compression; the position of the head and standing mechanism in the lower extremities.

There are many types of children for whom correction of body mechanics may be of help.

The relation of diet and digestion to this subject is close. The relation of basic diets, calcium and phosphorus metabolism to this subject are suggested.

The support of the trunk by the lower extremity is active, pushing the trunk away. The foot is still somewhat a cerebral member.

Children have unconscious movements under observation which reveal an underlying mechanism which begins at the hip joint by which we stand correctly.

This mechanism is in its detail identical with the positive supporting reflex in decerebrate animals. This mechanism is undoubtedly the expression of a spinal reflex.

The method of correction illustrated is a harmonizing of cortical control with the reflex patterns existent in all animals.

Section of Medicine, April 17, 1928

THE CAUSATION OF ANGINA PECTORIS

WILLIAM H. RESNIK

It is essential to differentiate clearly between genuine angina pectoris as originally described by Heberden, and the various types of heart pain that may resemble angina more or less closely. Angina pectoris is more than heart pain. It is a condition characterized by (a) paroxysmal chest pain and (b) *the likelihood of termination by sudden death.* Genuine angina is always due to anoxemia of the myocardium. That is to say, the attack is brought on when the oxygen supply of the heart is inadequate to meet the oxygen demands. Review of the literature reveals that practically all cases of angina are due to coronary disease or aortic insufficiency. The production of anoxemia of the myocardium by coronary disease is obvious, and recent experimental work has demonstrated that there is a diminished coronary flow in aortic insufficiency, reasonable

grounds for assuming that anoxemia of the myocardium may ensue. In the few remaining cases of true angina where neither coronary disease or aortic insufficiency are present, there are other conditions such as anemia, or arteriovenous fistula, capable of reducing the oxygen supply to the heart muscle. Uncomplicated aortitis is never associated with true angina; if angina is present, there are additional lesions such as coronary disease or aortic insufficiency. The frequency of aortic disease is merely a coincidental occurrence in angina pectoris. Analysis of the prevailing theories—1. coronary spasm, 2. disease of the aorta, 3. myocardial exhaustion, demonstrates that they are open to serious objection and are unacceptable. There is strong evidence to show that anoxemia may cause the two characteristic features of angina, the pain and the sudden death, which is due to ventricular fibrillation. The recognition of the clinical picture of acute coronary occlusion has brought powerful support to the establishment of the anoxemia theory. Acute coronary occlusion differs from angina pectoris only because the anoxemia in the former condition is severe and prolonged and consequently introduces another factor, myocardial infarction, and the events that depend on this condition.

Section of Orthopedic Surgery, April 20, 1928

DEFORMITIES FOLLOWING EPIPHYSITIS IN INFANCY

EDGAR S. OPPENHEIMER

Like other metastatic conditions, systemic infections are spread through the blood stream and the most usual sites for secondary deposits are in the liver, spleen and osseous system. The location of the foci in the osseous system will vary according to the age, as the blood supply develops. The greatest and most sluggish blood supply is at the epiphysial lines. In infants this is typical in osteomyelitis and it should be termed metaphysitis when so limited.

Typically it is multiple. Depending on the severity and nature of the infectious organism and the body reaction, we see different local reactions. If the nutrient artery is blocked there ensues an osteomyelitis. The blood supply in the long bones usually takes care of the organisms there and the bacteria remain in the metaphysis, as shown in the work of Joseph Koch. (a) The local reaction is shown by abscess formation breaking through subcutaneously with frank pus. (b) The abscess is absorbed in the fascia planes and no evidence of pus is left. (c) The joint may be directly involved—effusion, dislocation and contractures result. (d) The bacteria may leave the capillaries and via the lymph spaces extend through the periarticular structures and cause effusion in the joint. (e) The condition remains very circumscribed, as in "Brodie's abscess"; causes local necrosis, gives no signs but by destroying the cartilage; at a later date is evident as retardation of growth in all or part of the epiphyis, and obliteration of the growth line.

Sixty per cent. of bone infections in the first year of life are fatal. The immunizing effect of the dominant infection which may not be in bone causes a different reaction in the other foci and long after activity may be seen in these unsuspected places. In this way without the history of any bone infection, deformities of gradual onset may arise, with a negative history.

Five illustrative cases are shown, each giving a different picture; three with multiple lesions. All have growth disturbances, joint luxations and contractures. One case is of especial interest, showing an extraordinary clinical picture. Female five years old, normal at birth, at three months history of bronchitis followed by paralysis and later gradual onset of contractures of knees and hips. Tenotomy of hamstrings had been done with a diagnosis of poliomyelitis, but the deformities returned. When I first saw her, at the age of one and a half years, she had severely contracted hips and knees with sclerosis of the

joint tissues, not sensitive to manipulations, muscles intact but weak, reflexes and sensorium normal. I considered this a congenital condition at the time; it corresponded to nothing I had seen before. I did a tensor-fascia tenotomy and with two stretchings and plaster casts, with difficulty corrected the deformity, and later maintained the correction with braces. When she returned three years later, the child showed other remarkable lesions. A torticollis with no sterno-mastoid spasm marked but reducible; the left elbow anchylosed in mid-flexion; right wrist dislocated anteriorly; both hips dislocated but firm. No joints were inflamed or sensitive even to forcible correction. X-rays show arthritic changes in hips, knees, left elbow, right wrist, with destruction at the epiphysial lines. The neck and other joints are negative. This case had a multiple healed periarthritis the foci being metaphysial and dormant a long time without evidence of pus anywhere and no signs of arthritis.

Lesions in joints causing deformities and disturbances of uncertain and gradual onset and negative history are the result of a metaphysial infection in infancy.

PROCEEDINGS OF ACADEMY MEETINGS

Stated Meetings

Special Notice

There will be no Stated Meeting of the Academy on April 5.

Thursday Evening, April 19, at 8:30 o'clock

I. Executive Session
Election of Fellows

II. Symposium: Factors That Produce Personality and Make For Personality and Behavior Problems
   a. Paper by William Healy, Director, Judge Baker Foundation, Boston
   b. Paper by Lawson G. Lowrey, Director, Institute for Child Guidance

III. Presentation of Portrait of Dr. William H. Park
Note: Dr. Park's portrait will be on exhibit at the Academy after April 19.

Section Meetings

Section of Dermatology and Syphilis

Tuesday Evening, April 3, at 8:30 o'clock

ORDER

I. Miscellaneous Cases

II. Discussion

III. Executive Session
Nomination of Officers

Note: Examination of cases is limited to members and their invited guests.

Section of Surgery

Friday Evening, April 6, at 8:30 o'clock

ORDER

I. Reading of the Minutes

II. Presentation of Cases
a. Arthroplasty of the elbow (2), J. J. Westermann, Jr.
b. Habitual dislocation of the shoulder treated by the Thomas operation, Clay Ray Murray.
c. 1. Intestinal obstruction and multiple fecal fistulae following operation for appendicitis
2. Multiple cysts of the mesentery, Edward W. Peterson
d. Chronic intussusception, Fred W. Solley
e. Intussusception proven at operation to have been reduced by enema, Grant P. Pennoyer

III. Papers of the Evening
a. Intussusception in infancy, Richard W. Bolling
b. A study of ganglion with special reference to treatment, Louis Carp, A. P. Stout

IV. General Discussion

V. Executive Session
Nomination of Officers

Section of Neurology and Psychiatry

Tuesday Evening, April 10, at 8:30 o'clock

ORDER

I. Reading of the Minutes

II. Clinical Presentation:
Unusual tumor of the brain with presentation of patient and pathological specimen, Charles A. McKendree, James R. Lisa
(by invitation)

III. Papers of the Evening
a. Some unusual tumors of the third ventricle, Percival Bailey (by invitation)
Discussion, Joseph H. Globus, Walter M. Kraus
b. Venous dilatations and other anomalies of intra-spinal vessels with signs and symptoms of cord compression, Joseph H. Globus
Discussion, Bernard Sachs, Israel Strauss, Charles A. Elsberg

IV. Executive Session
Nomination of Officers

Section of Pediatrics

Thursday Evening, April 12, at 8:30 o'clock (promptly)

ORDER

I. Papers of the Evening
a. Actinomycosis of the lung
Report of a case treated by bronchoscopy and lipiodol, F. Elmer Johnson, John Devereux Kernan
b. Body mechanics as a fundamental factor in pediatric problems, Royal Storrs Haynes
Discussion, Frederick Tilney, Russell A. Hibbs, Charles Gilmore Kerley

II. General Discussion

III. Executive Session
Nomination of Officers

Section of Otology

The regular meeting of the Section of Otology will not be held on April 13.

The next meeting will be held jointly with the Section of Laryngology and Rhinology on Wednesday Evening, April 25. The program will be published later.

Section of Ophthalmology

Monday Evening, April 16, at 8:30 o'clock

I. Reading of the Minutes

II. Presentation of Cases
a. Anomaly of distribution of vessels on the disc
b. Two cilia in anterior chamber following accident
c. Angioid streaks of the retina, Wendell L. Hughes

III. Lantern slide demonstration. La Grange's operation, Webb W. Weeks

IV. A stage for the demonstration of optical phenomena, Charles W. Stevens

V. Papers of the Evening
a. 1. The influence of illumination on intra-ocular pressure in normal and glaucomatous eyes

2. Temporary and permanent disturbance of the dark adaptation in glaucoma, Dorian Feigenbaum, Chief Ophthalmologist Eye Hospitals of Jerusalem (by invitation)

b. Visual acuity, Selig Hecht, Prof. of Biophysics Columbia University (by invitation)

VI. Executive Session
Nomination of officers

Section of Medicine

Tuesday Evening, April 17, at 8:30 o'clock

ORDER

I. Papers of the Evening
a. Stimuli causing pain in gastric ulcer, Franklin Stevens (by invitation)
Discussion by Fordyce B. St. John
b. Causation of angina pectoris, William H. Resnik
Discussion by Lewis A. Conner
c. Medicine in industry, E. H. L. Corwin, Ph.D.

II. Executive Session
Nomination of officers

Section of Genito-Urinary Surgery

Wednesday Afternoon, April 18, 2:30-5:00 o'clock

Operations and Demonstrations by the Department of Urology, at N. Y. Post-Graduate Medical School and Hospital, 20th Street and Second Avenue.—Joseph J. McCarthy, Clarence G. Bandler, George F. Cahill, Stanley R. Woodruff, Joseph A. Hyams, Robert N. Severance (by invitation), J. Sidney Ritter, C. Travers Stepita

At the Academy

Wednesday Evening, April 18, at 8:30 o'clock

I. Presentation of Cases
(From the Service of New York Post-Graduate Medical School and Hospital)
a. Diagnostic cystograms, J. Sidney Ritter
b. Aberrant blood vessels as factors in ureteral obstruction, Joseph A. Hyams
c. Solitary cyst of the kidney, Stanley R. Woodruff
d. Absence of right kidney and infection of upper portion of left fused kidney:—heminephrectomy, Stanley R. Woodruff
e. Two cases of sarcoma of the bladder, C. Travers Stepita
f. Bladder paralysis due to non-tabetic spinal cord lesions, George F. Cahill
g. Chemical blood changes produced by obstructive lesions of the urogenital tract, Clarence G. Bandler, John A. Killian, Ph.D. (by invitation), M. B. Johnston, A.B. (by invitation)

h. Horseshoe kidney, multiple calculi in left pelvis
i. Renal, ureteral, vesical and impacted urethral calculi, simultaneously in same patient, Stanley R. Woodruff

II. Preliminary report of an improved visualized punch operation, Joseph F. McCarthy

III. Executive Session
Nomination of officers

Section of Orthopedic Surgery

Friday Evening, April 20, at 8:30 o'clock

ORDER

I. Reading of the Minutes

II. Case Presentations and Technical Demonstrations
a. Radiographic demonstration of fractures of the neck of the femur. Lantern slides, H. B. Philips
b. Apparatus for reducing fracture dislocation of the cervical spine, Joseph E. J. King
c. Extra articular arthrodesis for tuberculosis, followed later by arthroplasty, Fred H. Albee

III. Papers of the Evening
a. Bursitis of the foot—a neglected cause of disability, Percy W. Roberts
b. Deformities following epiphysitis in infancy, Edgar S. Oppenheimer

IV. Executive Session
Nomination of officers

Section of Obstetrics and Gynecology

Tuesday Evening, April 24, at 8:30 o'clock

ORDER

I. Reading of the Minutes

II. Papers of the Evening
a. Further observations on the value of the complement fixation test in gonorrhea in women, Emily Dunning Barringer
Discussion by John O. Polak, Anna W. Williams, Archibald McNeil (by invitation), Edward L. Keyes
b. Acute appendicitis and acute initial salpingitis: a differential point, James V. Ricci (by invitation)
Discussion by Edward W. Pinkham
c. A study of eighty repeated laparo-trachelotomies (with lantern slides), Joseph B. De Lee, Northwestern University, Chicago (by invitation), J. P. Greenhill (by invitation), Luella Nadelhoffer (by invitation)
d. A presentation of motion pictures to show their value in the teaching of obstetrics and in reporting clinical cases, Joseph B. De Lee (by invitation)

III. General Discussion

IV. Executive Session
Nomination of officers

Combined Meeting

Sections of Otology, and Laryngology and Rhinology

Wednesday Evening, April 25, at 8:30 o'clock

ORDER

I. Papers of the Evening
a. The laboratory aids in otology, Samuel J. Kopetzky
Discussion by Thomas J. Harris, Reuben Ottenberg, Joseph R. Losee, Max A. Goldzieher (by invitation)
b. The significant effect of paranasal sinusitis on certain chiasmal tumor syndromes, H. L. Lillie, The Mayo Clinic (by invitation)
Discussion, Wells P. Eagleton, Bernard Sachs, John M. Wheeler

II. Executive Session
Nomination of officers

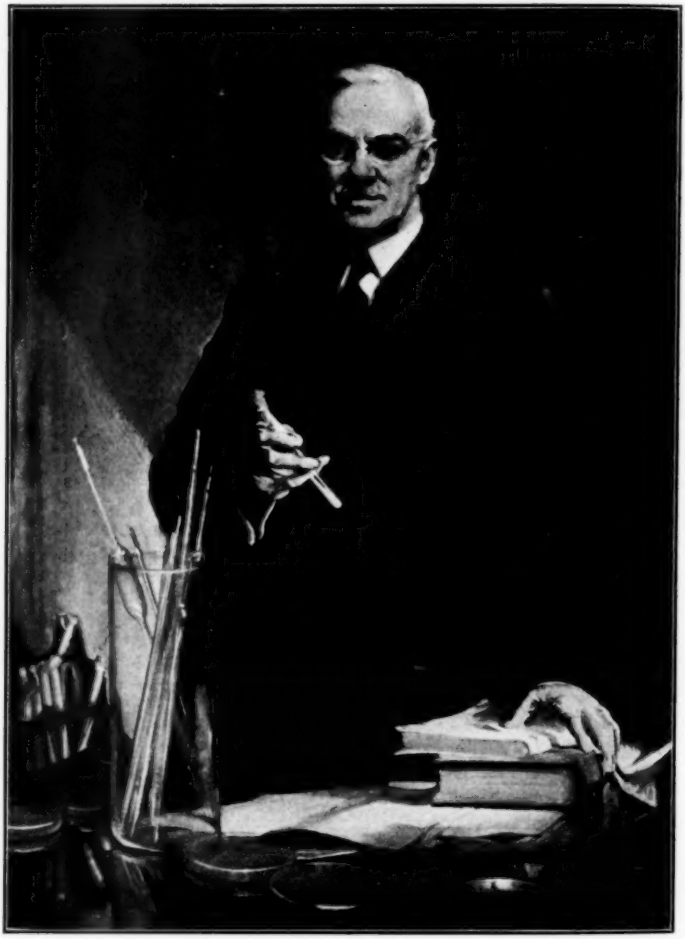
PRESENTATION TO THE NEW YORK ACADEMY OF MEDICINE OF THE PORTRAIT OF WILLIAM HALLOCK PARK, A.B., M.D., Sc.D., LL.D.

Presented at the Stated Meeting of April 19, 1928

Dr. Rowland G. Freeman, Chairman of the Committee in charge of the painting of the portrait, represented the donors in its presentation, in the following remarks:

I feel greatly honored in presenting to The New York Academy of Medicine this portrait of William Hallock Park, A.B., M.D., Sc.D., LL.D., Director of Laboratories of the Department of Health of the City of New York, Professor of Bacteriology and Hygiene in the New York University and Bellevue Hospital Medical School; and Vice-President of the New York Academy of Medicine.

I have known Dr. Park since our medical school days, and have always been much impressed, not only by his sound judgment and critical attitude, but by his universal courtesy and consideration for every one with whom he came in contact.



WILLIAM HALLOCK PARK

(Photograph of Portrait)

Dr. Park has not only accomplished much important research himself, but has kept well abreast with research everywhere, and has had the exceptional ability to pick out the valuable work, and to make practical application of it to public health purposes.

It would be impossible, in the short time at my disposal, to go over the important work that Dr. Park has accomplished for science, for public health, and for the health of New York City.

The first investigation that called public attention particularly to him was the method he promulgated for the early diagnosis and isolation of cases of diphtheria. At that time diagnosis was only made by cultures on Petrie plates. Dr. Park demonstrated the value and reliability of test tube culture diagnosis which has now been universally adopted.

He was also the first to utilize the Schick test to demonstrate the value of toxin-antitoxin for immunization, having proved its value to urge its general use. Under his supervision more than half a million children in the City have been immunized against diphtheria.

He was also the first to utilize the Schick test, and toxin-antitoxin for immunization, and under his supervision more than half a million children in the City have been immunized against diphtheria.

He has made extensive studies in scarlet fever and measles, and has provided the City and other places with bacteriological products. At the beginning of the war these New York products were in great demand.

Dr. Park has shown us that influenza is not due to the influenza bacillus.

The danger of impure milk was emphasized by him, and he introduced the bacteriological standard for city milk supplies.

A very important investigation was that which he undertook to determine the age, frequency and location of bovine

as contrasted with the human type of tuberculosis. Dr. Theobald Smith had just demonstrated the cultural differentiation of the two types, and Dr. Park with Dr. Krumwiede investigated several hundred specimens of tuberculous tissue and showed the usual distribution of bovine tuberculosis in children and the absence of this type in adult life.

Again, also in connection with milk, he took up the subject of commercial pasteurization. Such pasteurization formerly was used by milk producers and milk dealers to prevent dirty milk from souring before it could reach the consumer. For this purpose the milk was passed through pipes in an apparatus, one part of the pipe being heated so as to momentarily produce a high temperature in the milk. Dr. Park introduced into dairy plants in New York the holding process of milk pasteurization, in which the milk was subjected to a pasteurizing temperature, not a sterilizing temperature, for thirty minutes.

He also showed, in a large investigation, that babies fed on pasteurized dirty milk did not do as well as those fed on pasteurized clean milk.

It is due to the efforts of Dr. Park and his distinguished predecessor, Dr. Hermann M. Biggs, that New York City has an enviable reputation as a center of sound and advanced public health application. Not only has he accomplished all this, but he has trained workers who have carried out his ideas and methods in various other cities of the world. He has, moreover, obtained such a reputation that, with the various changes of administration, there has never been, as far as I know, any serious effort made to deprive the City of his valuable work.

In presenting this portrait I want to give all the credit for its being here to Dr. Annis E. Thomson, for while the late Mrs. Stella Boothe Vail conceived the idea, Dr. Thomson obtained the money, selected one whom we believe to have been an excellent artist for the purpose, and did all this with such good spirit and enthusiasm as to elicit the admiration of all those who were interested.

I am glad to be able to present to The New York Academy of Medicine, in behalf of the Committee and the friends of Dr. Park who were contributors, this excellent portrait by Johansen, of one of our most distinguished members.

Acceptance by Dr. Samuel W. Lambert

President of the Academy

Dr. Freeman, Members of the Academy and Guests: It gives me great pleasure to accept this portrait of Dr. Park who at present holds the office of one of our Vice-Presidencies of the Academy. There is very little to add to Dr. Freeman's resumé, as to what Dr. Park stands for in this City. He has done so many things so well, and so quietly, that his presence, although an influence upon the lives of every one, is not always appreciated.

He put New York City in the first rank, first among the cities which had laboratories for scientific work and scientific diagnosis. His work was not always as easy to introduce as it is now easy to carry on. And he has had his troubles which he has overcome very successfully, so that every one, I think, and every member of the profession, some of whom are not always in sympathy with his work, now feel that the New York City Board of Health and its laboratories are not only a desirable, but a most necessary part of a civic contest against disease and the development of public health in this community. I, therefore, accept this portrait with great pleasure, and it will be placed upon the walls of the Academy where it can be seen after it has been put on public view for a few weeks, immediately after this meeting to-morrow.

PUBLIC HEALTH RELATIONS COMMITTEE SUMMARY OF ACTIVITIES

OF THE

EXECUTIVE COMMITTEE

MONTHS OF MARCH AND APRIL

1928

Among the numerous activities of the Public Health Relations Committee during the months of March and April, the following are of particular interest:

1. *Conference on the Nomenclature of Diseases*

A conference on the Uniform Nomenclature of Diseases was held under the auspices of the Public Health Relations Committee at which representatives of several national and local medical organizations were present, as well as representatives of the United States Census Office, United States Public Health Service, and the medical departments of the Army and Navy.

The object of the conference was to discuss the need and feasibility of a nomenclature which would secure general acceptance and usage throughout the United States. The conference resolved to proceed with the suggestions made, and to call on the several national medical bodies to coöperate by appointing committees to aid in preparing, in coöperation with the Census Bureau, a classification which would be generally acceptable, and which would be in an abridged form practicable for usage in various connections.

The conference elected Dr. Haven Emerson, as President, Dr. E. H. L. Corwin, Secretary and Dr. George Baehr, Chairman of the Executive Committee; other members of the Executive Committee are Drs. Dana W. Atchley, Van Horne Norrie, William H. Davis of the Division of Vital Statistics of the U. S. Census Office and Mr. George H. Van Buren of the Statistical Department of the Metropolitan Life Insurance Company.

2. *Poliomyelitis Convalescent Serum*

With the possible increase in the prevalence of Poliomyelitis, the Committee considered ways and means of providing for a supply of serum from patients who have had the disease with a view of making it available for administration to suitable cases.

A small sum of money has been secured as a revolving fund for the supply of serum. The details of administration are under consideration.

3. *Training of Nurses in Operating Room Technique*

The attention of the Committee on Public Health Relations has been called to the existing provision with regard to the training of nurses in operating room technique, and to the need of changing the regulation of the State Department of Education concerning this training in the interest of the safety and welfare of patients.

After an inquiry into the subject, this Committee sent the following suggestions to the State Department of Education with regard to a change in the present regulations.

It goes without saying that all nurses should have training in asepsis, and that only in the operating room can this technique be adequately acquired. The recommendations of the Committee are:

First, that the present regulation of requiring a pupil nurse to assist at *25 major operations* is unwise, as the necessary training in asepsis can be obtained on *minor surgical cases.*

Second, the Committee is of the opinion that training in asepsis should be given as early as possible in the career of a pupil nurse. It may be a desirable procedure to provide the experience in the operating room early in the course of training so that the nurse in the wards would be impressed from the very start with the dangers of slipshod methods in dealing with the sick.

And third, all novices in the operating room should be thoroughly supervised and constantly controlled by an experienced graduate nurse.

4. *Work at Willard Parker Hospital*

Since its organization in 1911, the Public Health Relations Committee of The New York Academy of Medicine has given attention to the needs of the contagious disease hospitals of the City.

The first study the Committee undertook in 1911, was in relation to these hospitals, and subsequently at intervals of several years, complete or partial surveys of these hospitals were made. As a result of these inquiries, recommendations were drafted which were submitted to the City authorities, and many changes in administrative methods and statistical accounting have been introduced.

It is therefore with particular gratification that the Committee looks upon the progress made in conditions attendant upon the care of patients at the Willard Parker Hospital. The progress made during the last five years has been particularly striking. While in 1922 the general mortality of patients at the Willard Parker Hospital was 16.7 per cent., it was only 7.3 per cent. in 1927.

The mortality from diphtheria during this period fell from 18.1 per cent. to 9 per cent. and the number of intubation cases decreased from 14.2 per cent. of all the diphtheria cases to 4.5 per cent. Coincident with the reduction in intubation cases was the decrease in fatality attendant upon this procedure. While the death rate in intubation cases was 54 per cent. in 1922, it was reduced to 16.6 per cent. in 1927. Furthermore, the chronic tube cases no longer exist as a problem.

The mortality from measles fell from 22.4 per cent. in 1922 to 9 per cent. in 1927, and that of scarlet fever from 8.3 per cent. to 2.3 per cent.

While many factors have entered into the lowering of mortality of the several diseases during this period, the

striking fall in the rates at the Willard Parker Hospital must be definitely related to the reorganization which has taken place since 1923. The remarkable improvement throughout has taken place since the assumption of the direction of the medical work at Willard Parker Hospital by Dr. Arthur W. Bingham, as Chairman of the Medical Board, and since the appointment of Dr. Shirley W. Wynne, as Administrative Director of the Bureau of Hospitals of the Department of Health. Recognition is due to their services as well as to those of the entire medical and nursing staff of the Hospital and to the whole-hearted support given by the Commissioner of Health.

Other matters considered were:

a. Medicine in Industry

b. Open Hospitals

c. Condition of the city streets

d. Provision for drug addicts

and a number of other subjects.

Announcements

At its April meeting the Council approved of a special meeting of the Academy to be held in Hosack Hall on May 9, on the subject of Out-of-Door Cleanliness, and of a dinner being given by the Committee on Public Health Relations to Sir Leslie Mackenzie of Scotland in June.

COMMITTEE ON MEDICAL EDUCATION

PRACTICAL LECTURE SERIES—1928-29

TENTATIVE SCHEDULE

The third series of afternoon practical lectures of the Academy will comprise twenty lectures beginning in November. The following subjects have been selected for the series:

The serum treatment and its evaluation in lobar pneumonia. Jesse G. M. Bullowa

Carcinoma of the larynx. John Edmund Mackenty

The common affections of the colon: their origin and their management. John Leonard Kantor

Clinical types of hypotension. Alfred Friedlander, Cincinnati, Ohio

Certain medical complications of pregnancy and their treatment. Wm. W. Herrick

Management of spastic constipation and mucous colopathy in vagotonic persons. Lewellys F. Barker, Baltimore

The antitoxin treatment of erysipelas. (Lantern demonstrations). Konrad E. Birkhaug, Rochester, N. Y.

The allergic diseases as encountered by the general practitioner. William W. Duke

Control of conception—present and future. Robert L. Dickinson

Rheumatic fever. Homer F. Swift

Carcinoma of the colon and rectum. Daniel F. Jones, Boston

Diarrhœa and dehydration in young infants. Oscar M. Schloss

Diseases of the prostate. Hugh H. Young, Baltimore

Affections of the valves of the heart. Emanuel Libman

Medico-legal questions of interest to the general practitioner. Charles Norris

Epidemic encephalitis. Frederick Tilney

Burns and their treatment. Frederic Bancroft

Abscess of the lung. Harry Wessler

The medical examination. Harlow Brooks

Psycho-analysis and the general practitioner. Louis Casamajor

NOTES

Streeter Collection Acquired

Dr. E. C. Streeter of Boston sold his valuable collection of medical incunabula and classics to a well-known book dealer in New York about the end of the year 1927. The knowledge of this sale came to the attention of some of the members of the Library staff and the Council in a few days, and excited a great deal of comment and interest.

During the month of February the books were brought to New York and were examined by the President of the Academy, the Librarian, and others who were interested in this unusual type of medical publication.

At the February meeting of the Council a resolution was adopted which expressed the Council's earnest desire to obtain these books for the Academy. They are being held for the Academy at the price of $185,000.

Dr. Rosenbach, the dealer in question, has made a number of additions of unusual medical classics and the entire Collection comprises about 1700 volumes. Among them are the following important specimens:

1. Eighty-three medical incunabula, or books printed before 1501. Of some of these books only a very few copies are known and in one instance the book is unique or, in other words, until now no other copy has been recorded.

2. A beautiful illuminated Guy de Chauliac (1300-1368) manuscript in English which is said to have been made for John of Gaunt. It dates from the last quarter of the XIVth century and Quaritch, the well-known London bookseller, whose hands it passed through, described it as "one of the finest English medical manuscripts in existence." It is almost certain this MS. is alone worth twenty-five thousand dollars.

3. The works of the early anatomists. One of these is that of Berengarius who is said to have been the first to make anatomical plates from nature.

4. The rare *Epitome* of Vesalius which was issued before the *De fabrica humani corporis* of which latter there are 1st (1543),

2nd, and later editions. Two of the lesser, and very scarce, works of Vesalius are present.

5. An exceedingly valuable collection of the works of Ambroise Paré including many in the vernacular.

6. Probably the best collection of the earliest medical works printed in French to be found outside of France and the British Museum; those printed by Etienne Dolet about 1540 being extremely valuable and interesting.

7. A group of the first books written upon syphilis, which are very rare.

8. A number of English books printed in the XVIth century in Gothic type. These constitute some of the earliest medical works printed in England, the most important being *A Boke against Sweating Sickness,* London, 1552, by John Caius; the books on urines; works of Lowe, Gale, Vicary; and English editions of the *Regiment of Health* of the School of Salerno.

9. Examples of the works of great men in medicine in various editions too numerous to mention: Aristotle, Hippocrates, Galen, Celsus, Avicenna, Ketham, John de Vigo, Fuchs, Gerarde, Malpighi, Harvey, Redi, Sydenham, Borelli, Morton, Morgagni, Withering, Jenner, *et al.*

It must be evident to the Fellows of the Academy that an addition of this nature to the Library adds very materially to the cultural value of the Academy's collection and offers a rare opportunity to the occasional students of the history of medicine to find the original sources of ideas in medicine. The collection also provides an opportunity to students to see different types of printing, paper and binding, which are of historical and literary interest.

The Council and Library Committee appreciate that the purchase of such a collection is a luxury which cannot be afforded by the Library, but felt that there were amongst the Fellows of the Academy a sufficient number of men who were interested who would be able to secure from Foundations or wealthy individuals gifts in sufficient amounts to purchase the collection. The Council also felt that it would be difficult to appeal to wealthy individuals unless the Fellows of the Academy had taken a definite

interest in subscribing themselves. It is gratifying to know therefore, that all the members of the Trustees, the Council, the Library Committee and every member of the Library staff have contributed toward this fund, and this sum added to a number of important subscriptions now amounts to a total of $10,567 from Fellows and the balance has been subscribed by friends of the Academy.

Medical Information Bureau

At its meeting on April 25, the Council approved of the recommendation of the Committee on Medical Education that a medical information bureau be established with headquarters at the Academy and that a sub-committee of three be appointed to coöperate with the Comitia Minora of the County Medical Society in directing the activities of this bureau.

Trustees and Council

Following are some of the actions taken by the Trustees and the Council at the meetings held on March 28:

The Trustees authorized the use of the Reception Room for private dinners arranged by Fellows of the Academy at a charge of $10. The regular charge for this room for outside societies is $20. When used by Academy Sections or Committees, there is no charge therefor.

The Council authorized the President to appoint a Committee on International Relations, its exact duties to be defined later.

The Council accepted the generous offer made by Dr. Samuel McCullagh to present to the Academy a medal and sufficient funds to endow it, this medal to be known as the "Medal of The New York Academy of Medicine" and to be awarded for unusual and meritorious contributions to

medical science, and the following Committee has been appointed to work out the details of the method of award and the selection of the artist:

Dr. Walter J. MacNeal
Dr. Walter L. Niles
Dr. Walter W. Palmer
Dr. Francis Carter Wood
Dr. D. D. Van Slyke

The Council adopted a resolution congratulating Mr. Felix Wesstrom who on March 28, 1928, completed thirty-five years of loyal service to the Academy.

The New York Academy of Medicine Medal

Dr. Samuel McCullagh, feeling that the medical profession has never recognized in a tangible manner outstanding achievements of physicians, wrote to the President of the Academy offering to donate a medal to the Academy and sufficient endowment to award it at infrequent intervals, for unusually distinguished service in medicine. This offer was reported to the Council at its meeting on February 15 and the President was authorized to appoint a special Committee to consider the matter. Doctors Niles, Palmer, Wood, Van Slyke and MacNeal were asked to serve in this capacity.

A meeting of the Committee was held and the Committee then recommended that the Council accept Dr. McCullagh's offer and award The New York Academy of Medicine Medal at intervals of not oftener than three to five years, and that the medal be awarded not only for specific scientific discovery but also in recognition of the general career of a physician who had contributed in a distinguished way to the progress of medicine.

The Council approved of these recommendations.

Subsequently an artist submitted plaster casts of a design for the proposed medal and an announcement will be made when the design has been decided upon. The Fellows

will also be informed later as to the probable date of the first award of the medal.

Exhibition of Works in the Plastic and Graphic Arts by American Physicians Under the Auspices of the New York Physicians Art Club

Held at The New York Academy of Medicine, April 1st to 15th, 1928.

This is a second effort of the New York group in putting on public view, the work of contemporary American physicians in the plastic and graphic arts. That the first effort succeeded in arousing the interest of the profession, is evidenced by several physicians art exhibitions which have recently been held in other cities in this country and by the many new names in the present catalogue.

One of the things lacking in medical education is that phase of learning known as liberal, cultural or humane. Not only do many students lack this training, but a large number do not even know the meaning of the terms. An apt illustration, in a recent article in the *Edinburgh Review,* furnishes this definition as follows: A man is cast away on a desert island,—his first care is to find food; his next shelter; and he will have to be less than human if, after these are obtained, he does not wish to explore the island around him: this exploration supplies or rather *is* a liberal education." The pursuit of art, then, to which this Society of doctors has devoted itself is in a peculiar sense the quest of a liberal education.

"All passeth:
  Art alone outlasteth all.
The carven stone
  Survives the City's fall.

The hard wrought coin or bust
  That ploughmen find
May call to mind
  Old Empires changed to dust.

The Gods themselves must die
  But Sovereign Rhyme
May still defy
  The ravenings of time."

There is another phase to the significance of the activities of the members of the medical profession in the domain of art. The physician, concerned as he is, in his daily work with the grim realities of life, with misfortune and suffering, finds a release in the pursuit of art. The present exhibition, as did the first, speaks of the love of nature and of the joy in expressing the beauty of the human form.

It is to be hoped that these exhibitions will become regular annual events. They will go far in stimulating the efforts of the profession towards cultural betterment.

GEORGE D. STEWART

FELLOWS ELECTED APRIL 19

Ralph Almour, M.D.....51 West 73rd St
Leslie Orrell Ashton, M.D.....80 East 77th St.
Carl A. L. Binger, M.D.....151 East 92nd St.
William H. Bishop, M.D.....667 Madison Ave.
Alexis Carrel, M.D.....Rockefeller Institute
C. Floyd Haviland, M.D.....Ward's Island
Harold Herman, M.D.....296 Central Park West
Alvin Edgar Kuhlmann, M.D.
527 37th St., Union City, N. J.
Joseph F. Londrigan, M.D.
325 Washington St., Hoboken, N. J.
Arthur S. McQuillan, M.D. .....177 East 71st St.
Lewis Knode Neff, M.D.....1213 Park Ave.
Ray S. Nelson, M.D.....614 Park Ave.
Alfred Plaut, M.D.....4028 Eighth St., Bayside, L. I.
Dudley D. Stetson, M.D.....614 Park Ave.
George Thomas Strodl, M.D.....52 East 80th St
Henry Lyle Winter, M.D.....80 West 40th St.

AND FOR ASSOCIATE FELLOWSHIP

William B. Dunning, D.D.S.....140 East 80th St.
Leroy L. Hartman, D.D.S.....30 East 40th St.
Francis S. McCaffrey, D.D.S.....2170 University Ave.
Chester Newton Myers, Ph.D.....34 Cedar Pl., Yonkers
Hassow O. von Wedel, Sc.M., Sc.D....Ardsley-on-Hudson

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